

Harding Lawson Associates

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Engineering Environmental
and Construction Services

April 21, 2000

49380 1

Mr. Mario Stavale
Boeing Realty Corporation
4060 Lakewood Boulevard, 6th Floor
Long Beach, California 90808-1700

Letter Report**Groundwater Sampling and Well Abandonment, Well TMW-17**

**Boeing C-6 Facility
Los Angeles, California**

Dear Mr. Stavale,

INTRODUCTION

Harding Lawson Associates (HLA) is pleased to submit this letter report to Integrated Environmental Services, Inc. (IES) regarding the gauging, sampling, and well abandonment of temporary groundwater monitoring well TMW-17 located at the Boeing C-6 facility, 19503 South Normandie Avenue, Los Angeles, California. The objective of this project was to provide sampling and abandonment of Well TMW-17 according to the December 1998 Sampling and Analysis Plan approved by the California EPA, Department of Toxic Substances Control (DTSC) and guidelines of the Los Angeles Department of Health Services (DHS), respectively. This letter report describes the field activities that were performed and presents the analytical data for this project as outlined in HLA's proposal/workplan dated January 11, 2000.

FIELD ACTIVITIES

The field activities included gauging and collecting the required groundwater samples, transporting the samples to the analytical laboratory, abandoning monitoring well TMW-17, and the storage, removal, and disposal of all wastes generated at the site. A description of the field activities is presented below:

Groundwater gauging, sampling, and analysis

Temporary monitoring well TMW-17 was gauged and sampled on January 14, 2000. Gauging was accomplished using an electronic water level meter. Air monitoring for volatile organic compounds was performed with a photoionization detector (PID) upon opening the well cap. After the well was gauged, approximately five well volumes of groundwater were purged using an electric submersible pump. The groundwater was monitored for field parameters including temperature, pH, turbidity, and electrical conductivity during purging. A field log was maintained to document these parameters and is included in Appendix A.

A groundwater sample was collected for chemical analysis after purging the well. The sample was collected using a new, disposable polyethylene bailer equipped with a low-flow bottom-emptying device. The sample was decanted into two 40-ml VOA vials and one 500-ml polyethylene bottle to be analyzed for trichloroethene (TCE) by EPA Method 8260 and for hexavalent chromium by EPA Method 7196, respectively. The fraction for Chromium VI analysis was prepared by filtering in the field using a peristaltic pump and a disposable 0.45-micron filter.

The sample was transported for testing on the day of collection via courier to Orange Coast Analytical, Tustin, California, a state-certified laboratory. The sample was transported in a chilled ice under chain-of-custody protocol. Laboratory test results and chain-of-custody documentation for the groundwater sample is included in Appendix B.



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New drinking-water grade polyethylene tubing was used to purge the well. All non-disposable sampling equipment was decontaminated before each use with an Alconox detergent wash and double rinse with distilled water. The submersible pump was decontaminated by placing the pump in a container and pumping 20 gallons of potable water through it, and then rinsing again with distilled water. Decontamination fluids were stored in a 55-gallon drum for disposal after profiling.

Well Abandonment

Temporary monitoring well TMW-17 was abandoned on January 19, 2000. The well was abandoned by overdrilling the well casing, screen, grout, and sand pack using eight-inch diameter hollow stem auger equipment operated by THF Drilling of Fontana. After overdrilling, the boring was pressure-backfilled through the augers in 20- to 30-foot lifts from total depth to approximately 15 feet below ground surface (bgs) with a Portland cement/water mixture and a one-inch diameter tremie pipe. The upper 15 feet of the borehole was backfilled with ready-mix concrete to the ground surface. All drilling equipment was decontaminated before each using a steam cleaner. An HLA geologist was present to supervise the destruction of the monitoring well. A PID was used for health and safety air monitoring during drilling. Field logs were maintained to document all field activities. The following is a tabulation of overdrilling and backfilling observations for the abandoned well:

Overdrilling Observations	TMW-17
Original Depth of Well (height above ground), feet	82 (2)
Depth of Overdrilling, feet	83
Blank Casing Removed (condition), feet	64 (intact)
Screened Casing Removed, feet	20 (intact)
Auger Depth Before Cuttings Observed, feet bgs	25
Grout Removed, cubic yards	1.4
Bentonite- Grout/Sand Mix removed, yards	0.6
Backfilling Observations	
Backfill Mixture, Portland (bags)/Water (Gallons)	4/30
Total Quantity of Portland Used (bags)	30

During overdrilling of the well, grout cuttings were not observed at the surface until the augers reached a depth of 25 feet bgs (see above table). In discussions with the drilling contractor they maintained that for wells backfilled with bentonite grout, which does not set up like Portland cement, it is uncommon to observe cuttings at the surface until a significant portion of the well has been overdrilled. The reasons for this are the smaller relative volume of material being overdrilled (grout only occupies annular space between PVC casing and borehole wall) compared to drilling in undisturbed ground and that the fluidity of the grout does not allow it to readily travel up the auger flights. A HLA registered geologist observed and photographed remaining wells BL-1 through BL-4 to check if significant settlement of the grout had occurred. The photographs, included in Appendix A, show that there was little to no settlement of the grout at each of these wells. We therefore do not believe that the bentonite grout underwent significant settlement at Well TMW-17.

Waste storage, hauling, and disposal

Purge and decontamination water from the groundwater sampling and well abandonment activities was stored in a 55-gallon drum. Waste from the well abandonment activities (well materials, sand pack, sealing materials) was contained in a roll-off bin.



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Three composite waste profile samples, two soil (SP-1 and SP-2) and one wastewater (WWP-1), were collected at the end of the investigation to be analyzed by EPA Method 8260, EPA Method 418.1, EPA Method 8082, and for Title 22 CAM Metals. The waste samples were transported for profiling on the day of collection (January 19, 2000) via courier to BC Analytical in Bakersfield, California, a state-certified laboratory. The samples were handled and transported in a chilled ice chest under chain-of-custody protocol.

Upon receipt and evaluation of the analytical profiling test data, all wastes were removed from the property for disposal as non-hazardous material. The waste soil was disposed at Filter Recycling Services in Rialto by Consolidated Waste Industries, Montclair, California. The wastewater was disposed at the Crosby & Overton facility in Long Beach by Cameron Environmental, Torrance, California. Non-hazardous waste data forms for disposal of the waste are included in Appendix C.

RESULTS

The results of the groundwater level gauging, groundwater sample analyses, and waste soil and groundwater profile sample analyses are presented in the following tables:

Groundwater gauging and purging

Well No.	Top of Casing Elevation (feet MSL)	Depth to Water (feet btoc)	Groundwater Elevation (feet MSL)	Volume of Water Purged (Gallons)	Headspace PID Reading (ppm)
TMW-17	55.54	68.95	-13.41	13	0

Groundwater and Waste Disposal Profile Sample Analyses

Analyte ($\mu\text{g/L}$)	Monitoring Well TMW-17		
	SP-1	SP-2	WWP-1
Chloroform		1.6	
Trichloroethene		25	
	Soil (SP) and Wastewater (WWP) Profile		
Bromodichloromethane	ND	ND	0.32
Chloroform	ND	ND	3.2
Dibromochloromethane	ND	ND	0.49
Ethly Benzene	ND	ND	0.17
Methylene Chloride	ND	ND	0.43
Naphthalene	ND	ND	0.36
Toluene	ND	ND	3.6
Trichloroethene	ND	ND	2.0
1,2,4 – Trimethylbenzene	ND	ND	0.11
Total Xylenes	ND	ND	0.84
Methyl Tertiary Butyl Ether	ND	ND	1.4



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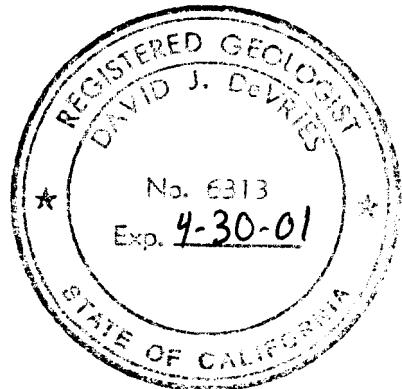
Thank you for the opportunity to present this revised confirming proposal. If you have any questions regarding this letter, please contact Mark Clardy at (949) 224-0050.

Very truly yours,
Harding Lawson Associates

Mark Clardy

Mark Clardy
Senior Geologist

Dave J. DeVries
David J. DeVries, R.G., C.H.G.
Senior Hydrogeologist



Attachments: Plate 1 Vicinity Map
 Plate 2 Site Plan
 Appendix A Field Logs and Photographs of Wells BL-1 through BL-4
 Appendix B Laboratory Results and Chain-of-Custody Forms – Groundwater and Waste
 Disposal Profile Samples
 Appendix C Well Abandonment Permit and Non-Hazardous Waste Data Forms

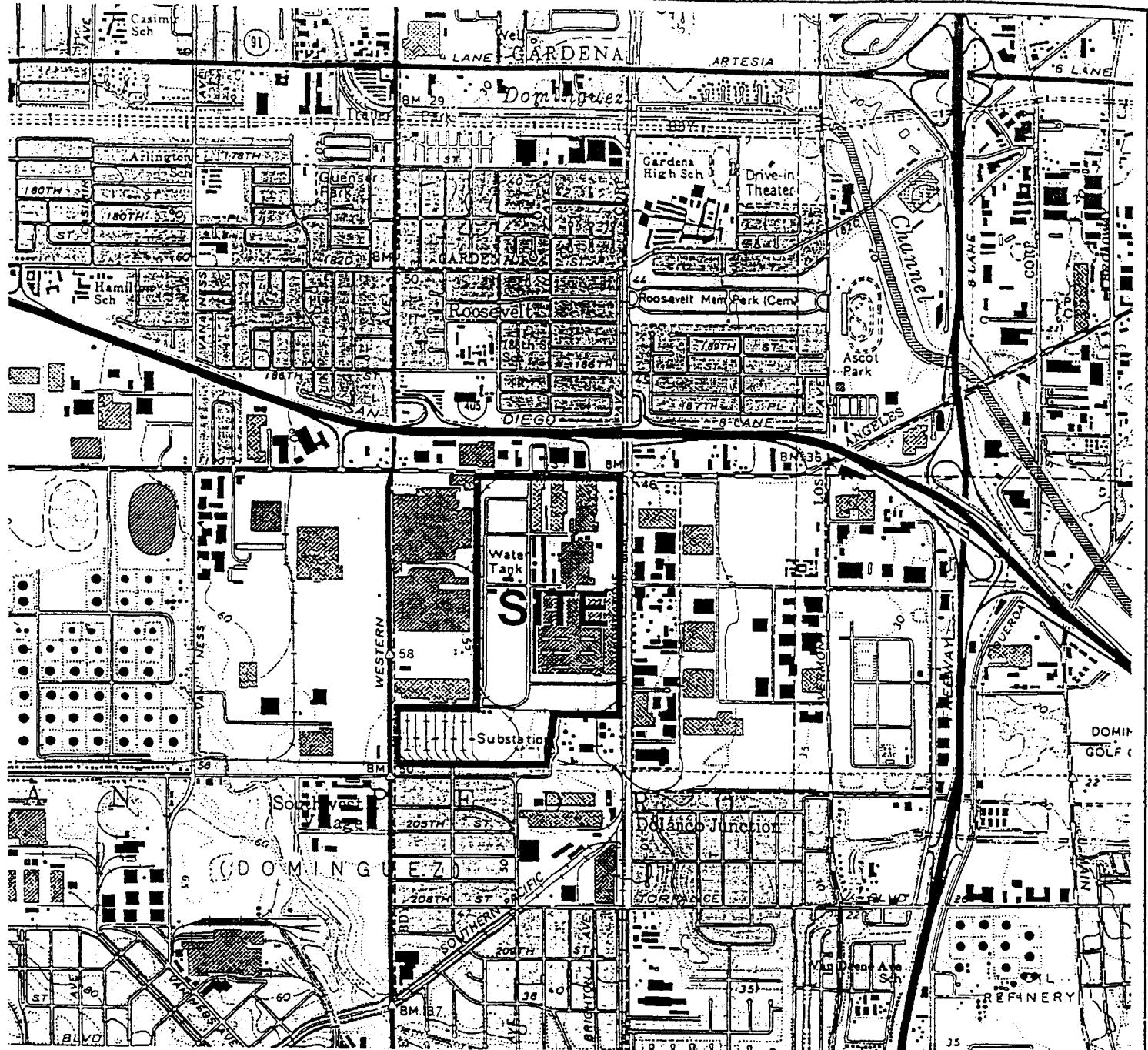
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cc: Mr. Tom Danaher – Integrated Environmental Services, Inc.



PLATES

PLATES



SCALE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

PLATE

1

Harding Lawson Associates
Engineering and
Environmental Services

VICINITY MAP
Boeing Realty Corporation C-6 Facility
Los Angeles, California

HLA

DRAWN
JTL

PROJECT-TASK NUMBER
40711-98 1

APPROVED
[Signature]

DATE
3/98

REVISED DATE

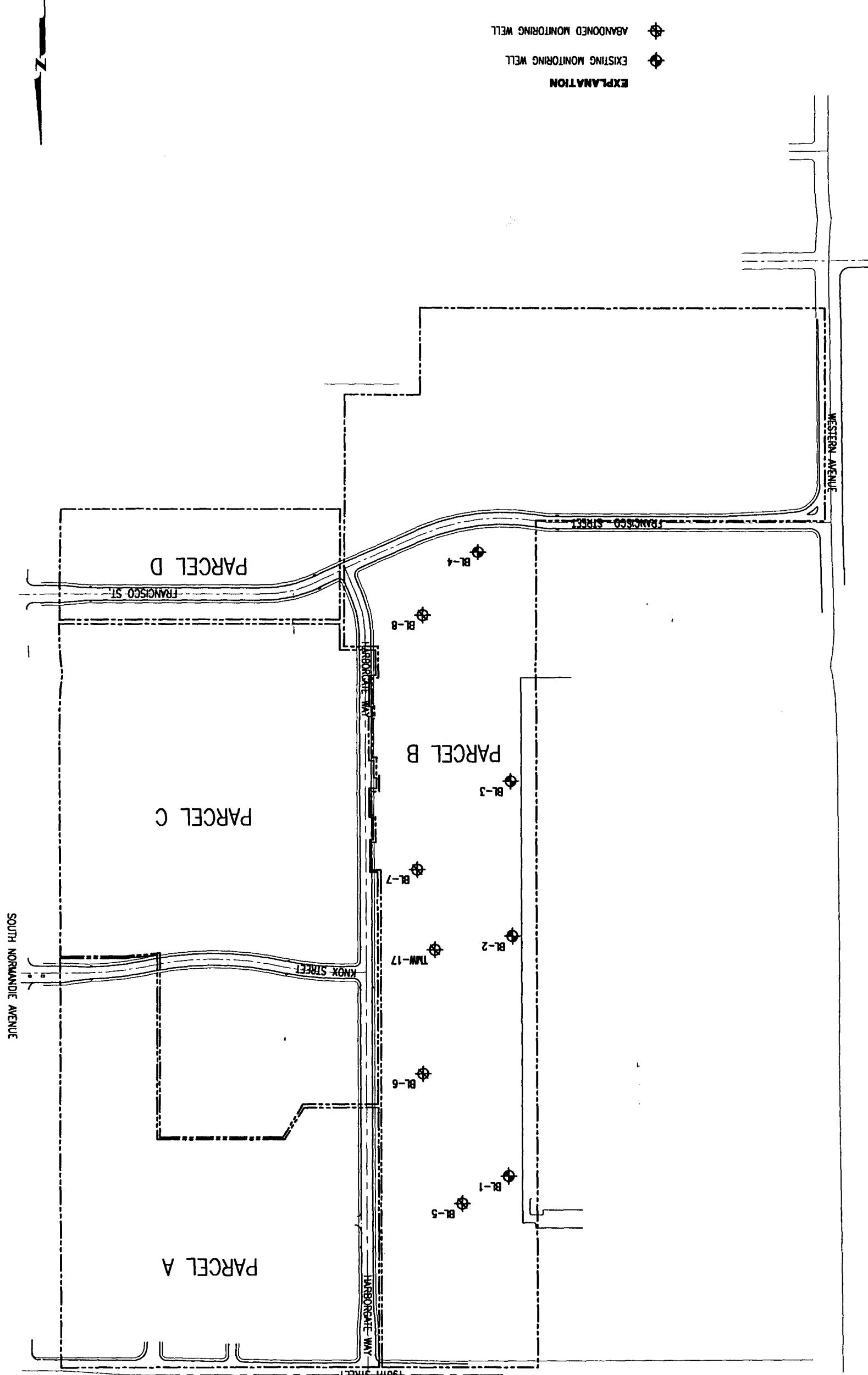
BOE-C6-0045908



**SITE PLAN WITH
MONITORING WELL LOCATIONS**

Los Angeles, California
Boeing C-6 Facility

Scale 0 200 400 feet



APPENDIX A

APPENDIX A
FIELD LOGS AND PHOTOGRAPHS OF WELLS BL-1 THROUGH BL-4

Sheet COVER of _____

Project: BORING - Job No.: 49380-1
Subject: FIELD INVESTIGATION DAILY REPORT 49380-2
Equipment Rental: _____ Company: _____ Date: 1-14-00
Equipment Hours: _____ F.E. Time from: _____ to: _____ To: _____
By: MP/BW

(outside service and expense record must be attached for any outside costs)

ACTIVITIES -

- REVIEW SITE INFO AND H.A.S.P.
- GAUGE V.O.C'S IN WELL HEAD SPACE
- MONITOR WATER LEVELS.
- PURGE AND SAMPLE WATER WELLS PER WORK PLAN
- COLLECT Q/A/Q/C SAMPLES PER WORK PLAN.

PERSONNEL ON SITE DURING ACTIVITIES,

- MARK PALMER (HLA)
- BRETT WILCOX (HLA)
- ANDERSON CHANG (IRS)
- B.C. LAB COURIER.

SAMPLES COLLECTED

SAMPLES	TYPE	LAB
TRAVEL BLANK	LAB	B.C. LAB
FB-9 / FB-9-NF	FIELD BLANK	" "
RB-9 / RB-9-NF	RESISTANCE BLANK	" "
BL-8 / BL-8-NF	WELL	" "
BL-7 / BL-7-NF	WELL	" "
BL-5 / BL-5-NF	WELL	" "
BL-6 / BL-6-NF	WELL	" "
TMW-17 / TMW-17-NF	WELL	ORANGE COAST LABS

Attachments:

Initial 

Project: BORING - WATER SAMPLINGSubject: FIELD INVESTIGATION DAILY REPORT

Equipment Rental: _____ Company: _____

Equipment Hours: _____ F.E. Time from: _____ to: _____

Job No.: 49380-1
49380-2Date: 1-14-00To: MIKE PALMER / BRETT
WILCOX

(outside service and expense record must be attached for any outside costs)

1500 - LEFT TO MEET BRETT WILCOX AT OFFICE
TO LOAD MATERIALS

0530 - LEAVING FOR SITE IN HIA #560 / 601

0610 - ARRIVED AT SITE.

- SETTING UP "QUAD" RINSE DECON STATION NEAR SOIL/WATER DRUMS STAGED NEAR TMW-17
- THOROUGHLY CLEANED PUMP / SOLVENT / CHECK VALVE
- CALIBRATED P.I.O. AND HORIBA U-ID (PARAMETER METER)
- REVIEWED H.A.S.P. AND SITE INFO. W/BRETT.

0730 - PREPARING TO MONITOR WATER LEVELS IN 8 BL WELLS AND 1 TMW-17 WELL. (ANDERSON CHANG ON SITE)

- P.I.O. READINGS WILL BE TAKEN AS SOON AS CAP IS REMOVED FROM WELL. I WILL INSERT P.I.O. HOSE IN/INTO WELL CASE THEN COVER TO AVOID AMBIENT AIR INTO WELL CASE. LOOK FOR P.I.O. READINGS ON WATER LEVEL DATA SHEET

0810 - FINISHED MONITORING WELLS.

* A FIELD BLANK WAS COLLECTED AND LABELED FB-9 AND FB-9-NF (NF = NON-FILTERED ON ALL SAMPLES)

* A RENSEATE BLANK WAS COLLECTED AND LABELED RB-9 AND RB-9-NF

0820 - MOBILIZING AT TMW-17 (ANDERSON CHANG ON SITE)

- SET UP EQUIPMENT
 - INSTALLED NEW $\frac{1}{2}$ " HOSE PER WORK PLAN.
 - AS PUMP WENT DOWN WELL.
 - WELL PURGE 4 WELL VOL'S AND MEASURE pH / TEMP / COND / TURB. PARAMETERS AND LOG ON FORM
 - PURED WATER INTO 55 GAL. DRUM
- 0855 - SAMPLED WELL PER WORK PLAN LABELED ~~BBQ~~ / ~~BBQ~~ TMW-17 / TMW-17
- Attachments: - ~~REMOVED~~ PUMP LINE - HOSE WAS REMOVED FROM PUMP WHEN PULLED FROM WELL. Initial MTP BBQ

Project: BOEINGSubject: FIELD INVESTIGATION DAILY REPORT

Equipment Rental: _____ Company: _____

Equipment Hours: _____ F.E. Time from: _____ to: _____

Job No.: 49380-1
49380-2Date: 1-14-00

To:

By: MARK CLARDY /B.W.

(outside service and expense record must be attached for any outside costs)

- DEMOBING TO DECON AREA TO CLEAN EQUIP
AND TRANSFER WATER. DECON PER WORK PLAN

2930 - MOBILIZING AT BL-8

- INSTALLING NEW $\frac{1}{2}$ " HOSE AS PUMP IS LOWERED IN WELL
- SET UP EQUIP.
- PURGED 4 WELL VOL'S MONITORING PARAMETERS
- REMOVED PUMP FROM WELL SEPARATING OLD HOSE.
- 1005 - COLLECTED SAMPLES LABELED BL-8 / BL-8-NF
- DEMOBING TO DECON AREA FOR DECON PROCEDURES.

1045 - MOBILIZING AT BL-7

- INSTALLED NEW $\frac{1}{2}$ " HOSE AS PUMP LOWERED INTO WELL
- PURGED ALMOST 5 WELL VOL'S WAITING FOR TURB. TO BE INTO SPEC'S.
- REMOVED PUMP SEPARATING HOSE.

1115 - COLLECTED SAMPLES LABELED BL-7 / BL-7-NF

- DEMOBING TO DECON AREA (ANDERSON CHANG ON SITE)
- PERFORMING DECON.

1145 - MOBILIZING AT BL-5

- INSTALLING NEW $\frac{1}{2}$ " HOSE INTO WELL WITH PUMP.
- PURGED 4 WELL VOL'S. PARAMETERS STABILIZED.
- REMOVED PUMP AND SEPARATED HOSE.

1215 - COLLECTED SAMPLES FROM WELL LABELED BL-5 / BL-5-NF

- DEMOBING TO DECON AREA FOR DECON PROCEDURES.

1300 - MOBILIZING AT BL-6 (ANDERSON CHANG ON SITE)

- INSTALLED NEW $\frac{1}{2}$ " HOSE WITH PUMP INTO WELL.
- PURGED 6 WELL VOL'S. UNTIL TURB. REACHED SPEC.
- REMOVED PUMP SEPARATING HOSE. REACHED

1335 - COLLECTED SAMPLE LABELED BL-6 / BL-6-NF

- DEMOBING TO DECON AREA FOR JOB BREAKDOWN

Attachments: MARK CLARDY HAS INFORMED ME THAT TAB COURIER
WILL BE IN AREA AROUND 2:00PM.

Initials MDL

Project: BOEING.Subject: FIELD INVESTIGATION DAILY REPORT

Equipment Rental: _____ Company: _____

Equipment Hours: _____ F.E. Time from: _____ to: _____

Job No.: 49380-1
49380-2Date: 1-14-00

To: _____

By: MD/BW.

(outside service and expense record must be attached for any outside costs)

- CLEARED ALL EQUIP.

* ALL GROUND WATER / DECON MATTER WAS PLACED
IN 55 GAL. DRUMS. THERE ARE 4 DRUMS LEFT
AT SITE. THEY ARE LABELED W/ CAUTION LABELS
- THE DRUMS WILL BE LEFT NEAR TMW-17 AS
PER ANDERSON CHANG (PES)

1415-B.W. OFF SITE TO COURIER SAMPLES TO ORANGE
COAST LABS UNDER C.O.C. AND DELIVER EQUIPMENT.

* P.GAVE P.F.O. AND H.A.S.P. TO ANDERSON CHANG
AS PER MARK CLARDY

1430- COURIER FROM B.C. LABS ON SITE.

1435- SIGNED OVER SAMPLES

- BEGAN PLACING CUSTODY STRIPS.

1510- OFF SITE

Attachments:

Initial 

WATER LEVEL DATA SHEET

Harding Linwson Associates

INSTRUMENT/MODEL #: SOLARIS 150

PROJECT: BOEING

JOB NUMBER: 49380 -1 and -2

NAME: MIKE PACMER
BRETT WILCOX

DATE: 1-14-00

SHEET / OF /



Job Name BOEING
Job Number 49380-1
Recorded by JMM *[Signature]*

Well No. TMW-17
Well Type: Monitor Extraction Other _____
Well Material: PVC St. Steel Other _____
Date 1-14-00 Time 0820
Sampled by MP/BW (Initials)

WELL PURGING

PURGE VOLUME

Casing Diameter (D in inches): 2-inch 4-inch 6-inch Other _____
Total Depth of Casing (TD in feet BTOC): 84.47
Water Level Depth (WL in feet BTOC): 68.95
Number of Well Volumes to be purged (# Vols)
 3 4 5 10 Other _____

PURGE METHOD

Bailer - Type: _____
 Submersible Centrifugal Bladder; Pump No.: _____
 Other - Type: GRUNDFOS

PUMP INTAKE SETTING

Near Bottom Near Top Other _____
Depth in feet (BTOC): 84 Screen Interval in Feet (BTOC) from _____ to _____

PURGE VOLUME CALCULATION:

$$\frac{(84.47 - 68.95)}{\text{TD (feet)}} \times \frac{2}{\text{WL (feet)}} \times \frac{4}{\text{D (inches)}} \times \# \text{ Vols} \quad X \quad 0.0408 = \underline{10.13} \quad \text{gallons}$$

Calculated Purge Volume

PURGE TIME

0832 Start 0846 Stop 0846 Elapsed

PURGE RATE

Initial 1.0 gpm Final _____ gpm

ACTUAL PURGE VOLUME

10.13 gallons

FIELD PARAMETER MEASUREMENT

CAUTIONS

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$	T $^{\circ}\text{F}$	Other TURB
INITIAL	6.84	1.28	20.6	68.9	999+
5	6.82	1.22	21.6	70.8	412
7	6.81	1.20	21.8	71.2	83
9	6.83	1.21	21.8	71.2	29
11	6.84	1.21	21.9	71.5	13

Minutes Since Pumping Began	pH	Cond. ($\mu\text{mhos}/\text{cm}$)	T $^{\circ}\text{C}$	T $^{\circ}\text{F}$	Other TURB
13	6.86	120	21.9	71.2	4.1
Meter Nos.					

Observations During Purging (Well Condition, Turbidity, Color, Odor): _____

Discharge Water Disposal: Sanitary Sewer Storm Sewer Other 55 GAL. DRUMS.

WELL SAMPLING

SAMPLING METHOD

Bailer - Type: DISPOSABLE
 Submersible Centrifugal Bladder; Pump No.: _____

Same As Above

Grab - Type: _____

Other - Type: _____

SAMPLING DISTRIBUTION

Sample Series: _____

Sample No.	Volume/Cont.	Analysis Requested	Preservatives	Lab	Comments
TMW-17	1/250ml	CHROMIUM 6	N/A	TEST KIT	
TMW-17	2/40ml	8260	HCl	ORANGE COAT TUBE =	0855

QUALITY CONTROL SAMPLES

Duplicate Samples

Original Sample No.	Duplicate Sample No.

Blank Samples

Type	Sample No.

Other Samples

Type	Sample No.

BOEING C-6 FACILITY
HARROGATE, TORRANCE, CA.

Sheet 4 of 6

Project: BRC - WELL ABANDONMENT (BL-06)

Job No.: 49311.00.1

Subject: FIELD INVESTIGATION DAILY REPORT

Date: JAN - 18 - 2000

Equipment Rental: _____ Company: _____

To: _____

Equipment Hours: _____ F.E. Time from: _____ to: _____

By: RHM

(outside service and expense record must be attached for any outside costs)

1700 TAG BL-06 R 79.5' bgs (0.5' stuck-up.)
 1705 BEGIN OVERDRILLING - CUTTINGS UP (GROUT) AT.
 - SMALL AMOUNT OF CHIPS UP w/ SOIL UNTIL
 CUTTINGS UP AT ABOUT 30' bgs (GROUT VOLUCITY)
 1810 TO TO 80' bgs - CLEAN-OUT BOREHOLE
 PULL UP \approx 8' OVERNIGHT.
 1830 OFFSITE FOR DAY - TRIP OVER TO BL-08 TO
 MOVE DRUM, SUPPLIES SO GRADING CAN START IN
 THE MORNING

2

JAN 19, 2000

0630 ON SITE w/ THF
 LOWER THMAYE PIPE TO \approx 70' bgs. (GROUT - bentonite-sands
 mixture on hammer about 8'). 140' FILTER BAGS
 PORTLAND (4 BAGS \approx 20 GALLONS). BAGS IN FILT
 FLUMS OVER AUGERS - PULL AUGERS IN 25' LIFTS WHILE
 BACKFILLING TO KEEP PORTLAND IN PLACE AUGERS - FALLS
 OUT OF AUGERS WHILE PULLING OUT.
 0900 SLOWLY BAG FIL IN - 7 BATCHES (27 bags PORTLAND)
 CLEAN SITE
 DECOR (1 DROM)
 DUMP CUTTINGS TO D.R. - ($1\frac{1}{2}$ YARDS)
 70'. VOLUCITY
 30'. bentonite / SAND (filter pack
 + foams)

Attachments:

Initial

Boeing P-6 Facility
Hawthorne, Torrance, CA.

Sheet 5 of 6

Project: BRC - WELL ABANDONMENT (TMW-17)

Job No.: 49312.00.1

Subject: FIELD INVESTIGATION DAILY REPORT

Date: JAN-19-2000

Equipment Rental: _____ Company: _____

To: PLAT

Equipment Hours: _____ F.E. Time from: _____ to: _____

By: PLAT

(outside service and expense record must be attached for any outside costs)

0940 TAG TMW-17 TO 82' AND 2' STICKUP)

PULL MONUMENT OUT 4' THREADED PIECE CLEAN OUT
BLADE AUGER DOWN ABOUT 2' TO EXPOSE female ends
CLEAN TUBERS, SCREW 3' SECTION FROM PRIOR WELL
INTO TMW-17.

1010 BEGIN OVERDRILLING TMW-17 - CUTTINGS UP (GRAT)
@ 25' BGS

1100 *COLLECT PROFILE SAMPLES

DECOR BARRIER : TAKE NW P-1 (WASH-WATER PROFILE)
FROM DRUM OF PAPER DECOR CUTOFF
FROM 1-11.00 SAMPLING DRUM AND
DECOR OPEN FROM BL-07.

*PLAN TO COLLECT
SOIL SAMPLES FROM

1/3 FROM SAMPLING DRUMS

TWO ZONES AS

2/3 FROM DECOR DRUMS

SEEN FROM CUTTINGS

TAKE SP-1 1/2 (SOIL PROFILE) FROM
ON AUGERS BOTTOM CUTTINGS OF BL-06 AND TOP
CUTTINGS FROM TMW-17.

1130 FINISH BORING TO 83' BGS - CLEAN-OUT

1145 LOAD TRAILER PPE TO 75' BGS, TAKE SHORT CURE

1215 MIX FIRST BATCH SLURRY (4 BAGS/ 30 GALLONS)

1255 BC LABS PICKED UP SAMPLES.

1300 SLURRY BACKFILL IN - $\frac{1}{2}$ BAGS (30 BAGS)

(DAM SITE DECOR (1 DRUM))

DUMP CUTTINGS TO BIN (2 YARDS)

70 Y. VOLCLAY

30 Y. BENTONITE / SAND (FILTRATION PACK + FORESTRAY)

* Michael Lui, DEHS, visited site @ 1200

Attachments:

Initial 

(5)

1-19-00

1600 TAG top of PORTLAND C 12' bgs @ BL-07
 Mix READY-mix concrete. 8 RAGS READY-mix
 in to surface.

TAKE DECOR DEBRIS (8) + GROWNSITE DECOR/PLATE
 DEBRIS (4) TO BIN AREA. TOTAL ~~12~~ 55-GAL
 DEBRIS.

Load of prell casing + trash put in
 top of bin for disposal. Will go
 to landfill so no lead to separate
 cuttings. (GROUT) from trash. (PER
 CONSOLIDATED WASTE)

1700 TAG top of PORTLAND C 13' bgs @ BL-05
 Mix READY-mix concrete. 8 $\frac{1}{2}$ RAGS in to concrete
 to surface.

1730 TAG TOP OF PORTLAND C 12' bgs @ R-06.
 Mix READY-mix CONCRETE 7 $\frac{1}{2}$ RAGS in to surface

1800 TAG top of PORTLAND C 12' bgs @ TURWIT
 Mix READY-mix concrete 8 RAGS in to surface.

Mixed concrete in wheel-barrel. Filled bottom
 of barrel w/ water (≈ 3.5 gal) mixed in 2 bags
 per batch. Poured Downhole.

* Some of blank/screen casings were 20' lengths, so had
 to break them to fit into bin.

1830 offsite for day!

Project: BOEING.Subject: FIELD INVESTIGATION DAILY REPORT

Equipment Rental: _____ Company: _____

Equipment Hours: _____ F.E. Time from: _____ to: _____ By: M. PALMIER

(outside service and expense record must be attached for any outside costs)

0800- LEFT FOR SITE IN HIA #560, IT'S RAINING

0815- MARK C. PAGED ME, EXTRD PREVIOUS
TO CALL HEM.- HE IS CALLING TO CHECK IF HAULING
CONTRACTORS WILL BE GOING TO SITE

0845- GOT OK TO CONTINUE.

0930- AT HARBORGATE GATE LOCATIONS

LOCATIONS OF DRUMS OF WATER AND SOIL BN.

1015- CAMERON ENTER. ON SITE. TAKING THEM ONTO
FACILITY FOR WATER DRUMS.* THERE ARE ONLY 8 DRUMS OF WATER LOCATED
NEAR SOIL BN IN DESCRIBED LOCATION AREA.- WE LEFT FACILITY TO PICK UP 3 WATER
DRUMS NEAR WREATH ACROSS FROM GUARD GATE.* THESE DRUMS ARE IN A MUD LOT AND CAMERON'S
TRUCK WILL NOT BE ABLE TO DRIVE TO DRUMS.
WE WILL HAVE BRING DRUMS TO TRUCK.- CAMERON ENTER. HAS REMOVED 11 55 GAL DRUMS
OF WATER SEE MANIFEST.

1105- CONSOLIDATED WASTE AT GUARD GATE.

LET HEM ONTO FACILITY TO REMOVE SOIL BN.

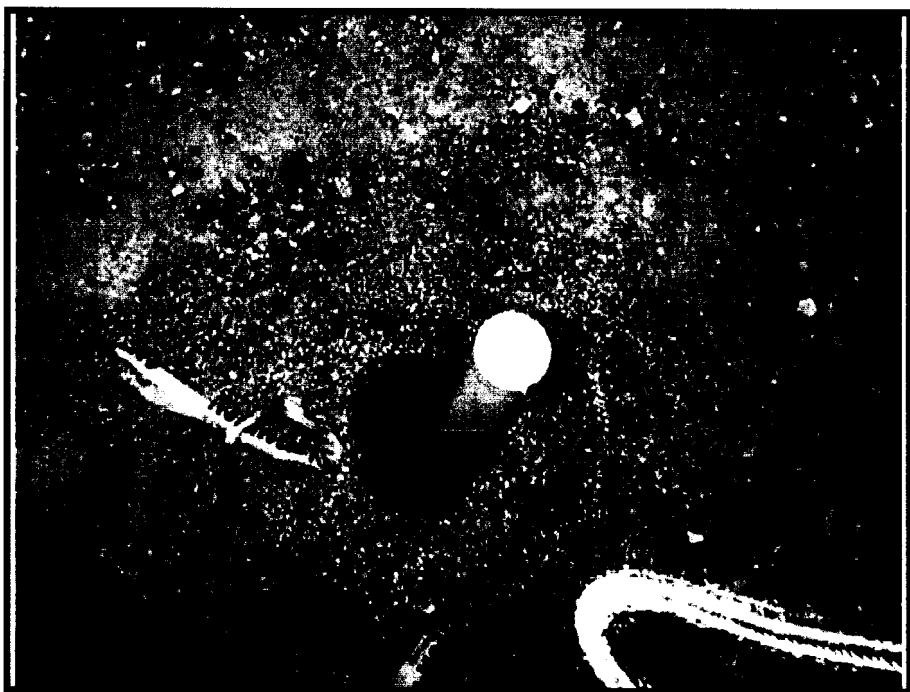
- SEE MANIFEST.

1140- OFF SITE.

1230- BACK AT OFFICE.

Attachments:

Initial



Well BL-1 showing approximately 4 inches of bentonite grout seal settlement.



Well BL-2 with small hole in bentonite grout seal from previous metal stake. No settlement of grout.



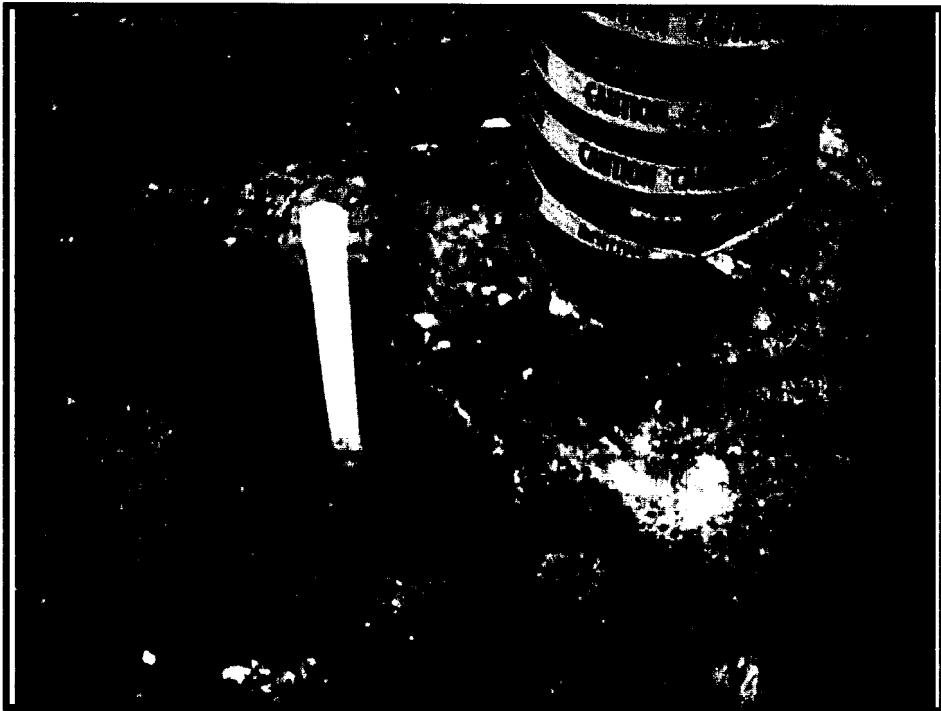
Harding Lawson Associates
Engineering and Environmental Services
2171 Campus Drive, Suite 100
Irvine, California 92612 - (949) 224-0050

SITE PHOTOGRAPHS





Well BL-3 with negligible grout settlement.



Well BL-4 with top of bentonite grout found at 1 foot below surface beneath soil backfill.



Harding Lawson Associates
Engineering and Environmental Services
2171 Campus Drive, Suite 100
Irvine, California 92612 - (949) 224-0050

SITE PHOTOGRAPHS



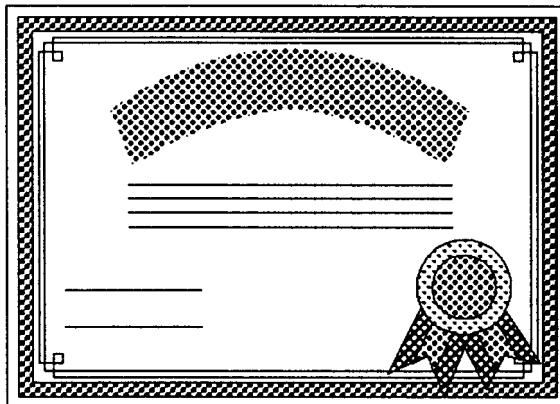
APPENDIX B

APPENDIX B
LABORATORY RESULTS AND CHAIN-OF-CUSTODY FORMS –
GROUNDWATER AND WASTE DISPOSAL PROFILE SAMPLING



ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (480) 736-0960 Fax (480) 736-0970



ORANGE COAST ANALYTICAL THANKS YOU FOR YOUR BUSINESS

THE FOLLOWING PAGES ARE THE ANALYSIS REPORT

ON THE SAMPLES YOU REQUESTED.

IF YOU HAVE ANY QUESTIONS REGARDING THIS REPORT

PLEASE FEEL FREE TO CONTACT US.



ORANGE COAST ANALYTICAL, INC.

3002 Dow, Suite 532, Tustin, CA 92780 (714) 832-0064 Fax (714) 832-0067
4620 E. Elwood, Suite 4, Phoenix, AZ 85040 (480) 736-0960 Fax (480) 736-0970

LABORATORY REPORT FORM

Laboratory Name: ORANGE COAST ANALYTICAL, INC.

Address: 3002 Dow Suite 532 Tustin, CA 92780

Telephone: (714) 832-0064

Laboratory Certification

(ELAP) No.: 1416 Expiration Date: 2001

Laboratory Director's Name (Print): Mark Noorani

Client: Harding Lawson

Project No.:

Project Name: Boeing

Laboratory Reference: HLA 11344

Analytical Method: 8260, Cr VI

Date Sampled: 01/14/00

Date Received: 01/14/00

Date Reported: 01/17/00

Sample Matrix: Water

Chain of Custody Received: Yes

Laboratory Director's Signature: Mark Noorani

Harding Lawson

Mr. Mark Clardy
 2171 Campus Suite #100
 Irvine, CA 92626

Client Project ID: Boeing
Client Project #:

Sample Description: Water, Method Blank
Laboratory Sample Number: MB0114
Laboratory Reference #: HLA 11344

Sampled: ---
Received: ---
Analyzed: 01/14/00
Reported: 01/17/00

VOLATILE ORGANICS BY GC/MS (EPA 8260)

ANALYTE	CAS NUMBER	DETECTION Limit (ug/l)	SAMPLE RESULTS (ug/l)
Benzene	71-43-2	0.5	N.D.
Bromodichloromethane	75-27-4	0.5	N.D.
Bromoform	75-25-2	0.5	N.D.
Bromomethane	74-83-9	1.0	N.D.
Carbon Disulfide	75-15-0	0.5	N.D.
Carbon tetrachloride	56-23-5	0.5	N.D.
Chlorobenzene	108-90-7	0.5	N.D.
Chlorodibromomethane	124-48-1	0.5	N.D.
Chloroethane	75-00-3	0.5	N.D.
2-Chloroethyl vinyl ether	110-75-8	0.5	N.D.
Chloroform	67-66-3	0.5	N.D.
Chloromethane	74-87-3	0.5	N.D.
1,1-Dichloroethane	75-34-3	0.5	N.D.
1,2-Dichloroethane	107-06-2	0.5	N.D.
1,1-Dichloroethene	75-35-4	0.5	N.D.
Trans 1,2-Dichloroethene	156-60-5	0.5	N.D.
1,2-Dichloropropane	78-87-5	0.5	N.D.
cis-1,3-Dichloropropene	10061-01-5	0.5	N.D.
trans-1,3-Dichloropropene	10061-02-6	0.5	N.D.
Ethylbenzene	100-41-4	0.5	N.D.
Methylene chloride	75-09-2	2.5	N.D.
Styrene	100-42-5	0.5	N.D.
1,1,2,2-Tetrachloroethane	79-34-5	0.5	N.D.
Tetrachloroethene	127-18-4	0.5	N.D.
Toluene	108-88-3	0.5	N.D.
1,1,1-Trichloroethane	71-55-6	0.5	N.D.
1,1,2-Trichloroethane	79-00-5	0.5	N.D.
Trichloroethene	79-01-6	0.5	N.D.
Trichlorofluoromethane	75-69-4	0.5	N.D.
Vinyl acetate	108-05-4	1.0	N.D.
Vinyl chloride	75-01-4	0.5	N.D.
Total Xylenes	1330-20-7	1.0	N.D.
Dichlorodifluoromethane	75-71-8	0.5	N.D.
cis-1,2,-Dichloroethene	156-59-2	0.5	N.D.
2,2-Dichloropropane	594-20-7	0.5	N.D.
Bromochloromethane	74-97-5	0.5	N.D.
1,1-Dichloropropene	563-58-6	0.5	N.D.
Dibromomethane	74-95-3	0.5	N.D.
1,2-Dibromoethane	106-93-4	0.5	N.D.

INT_mn

Orange Coast Analytical, Inc.

VOLATILE ORGANICS BY GC/MS (EPA 8260) (continued)

Sample Description: Water, Method Blank

Laboratory Sample Number: MB0114

Laboratory Reference #: HLA 11344

ANALYTE	CAS NUMBER	DETECTION Limit (ug/l)	SAMPLE RESULTS (ug/l)
1,3-Dichloropropane	142-28-9	0.5	N.D.
Isopropylbenzene	98-82-8	0.5	N.D.
1,1,2,2-Tetrachloroethane	79-34-5	0.5	N.D.
1,2,3-Trichloropropane	96-18-4	0.5	N.D.
Bromobenzene	108-86-1	0.5	N.D.
n-Propylbenzene	103-65-1	0.5	N.D.
2-Chlorotoluene	95-49-8	0.5	N.D.
1,3,5-Trimethylbenzene	108-67-8	0.5	N.D.
4-Chlorotoluene	106-43-4	0.5	N.D.
tert-Butylbenzene	98-06-6	0.5	N.D.
1,2,4-Trimethylbenzene	95-63-6	0.5	N.D.
sec-Butylbenzene	135-98-8	0.5	N.D.
4-Isopropyltoluene	99-87-6	0.5	N.D.
1,3-Dichlorobenzene	541-73-1	0.5	N.D.
1,4-Dichlorobenzene	106-46-7	0.5	N.D.
n-Butylbenzene	104-51-8	0.5	N.D.
1,2-Dichlorobenzene	95-50-1	0.5	N.D.
1-2-Dibromo-3-CPA	96-12-8	1.0	N.D.
1,2,4-Trichlorobenzene	120-82-1	0.5	N.D.
Hexachlorobutadiene	87-68-3	0.5	N.D.
Naphthalene	91-20-3	0.5	N.D.
1,2,3-Trichlorobenzene	87-61-6	0.5	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

Surrogate Recoveries %

Dibromofluoromethane	99
Toluene-d8	109
4-Bromofluorobenzene	111

Harding Lawson

Mr. Mark Clardy
 2171 Campus Suite #100
 Irvine, CA 92626

Client Project ID: Boeing
Client Project #:

Sample Description: Water, TMW-17
Laboratory Sample Number: 00010049
Laboratory Reference #: HLA 11344

Sampled: 01/14/00
Received: 01/14/00
Analyzed: 01/14/00
Reported: 01/17/00

VOLATILE ORGANICS BY GC/MS (EPA 8260)

ANALYTE	CAS NUMBER	DETECTION Limit (ug/l)	SAMPLE RESULTS (ug/l)
Benzene	71-43-2	0.5	N.D.
Bromodichloromethane	75-27-4	0.5	N.D.
Bromoform	75-25-2	0.5	N.D.
Bromomethane	74-83-9	1.0	N.D.
Carbon Disulfide	75-15-0	0.5	N.D.
Carbon tetrachloride	56-23-5	0.5	N.D.
Chlorobenzene	108-90-7	0.5	N.D.
Chlorodibromomethane	124-48-1	0.5	N.D.
Chloroethane	75-00-3	0.5	N.D.
2-Chloroethyl vinyl ether	110-75-8	0.5	N.D.
Chloroform	67-66-3	0.5	1.6
Chloromethane	74-87-3	0.5	N.D.
1,1-Dichloroethane	75-34-3	0.5	N.D.
1,2-Dichloroethane	107-06-2	0.5	N.D.
1,1-Dichloroethene	75-35-4	0.5	N.D.
Trans 1,2-Dichloroethene	156-60-5	0.5	N.D.
1,2-Dichloropropane	78-87-5	0.5	N.D.
cis-1,3-Dichloropropene	10061-01-5	0.5	N.D.
trans-1,3-Dichloropropene	10061-02-6	0.5	N.D.
Ethylbenzene	100-41-4	0.5	N.D.
Methylene chloride	75-09-2	2.5	N.D.
Styrene	100-42-5	0.5	N.D.
1,1,2,2-Tetrachloroethane	79-34-5	0.5	N.D.
Tetrachloroethene	127-18-4	0.5	N.D.
Toluene	108-88-3	0.5	N.D.
1,1,1-Trichloroethane	71-55-6	0.5	N.D.
1,1,2-Trichloroethane	79-00-5	0.5	N.D.
Trichloroethene	79-01-6	0.5	25
Trichlorofluoromethane	75-69-4	0.5	N.D.
Vinyl acetate	108-05-4	1.0	N.D.
Vinyl chloride	75-01-4	0.5	N.D.
Total Xylenes	1330-20-7	1.0	N.D.
Dichlorodifluoromethane	75-71-8	0.5	N.D.
cis-1,2,-Dichloroethene	156-59-2	0.5	N.D.
2,2-Dichloropropane	594-20-7	0.5	N.D.
Bromochloromethane	74-97-5	0.5	N.D.
1,1-Dichloropropene	563-58-6	0.5	N.D.
Dibromomethane	74-95-3	0.5	N.D.
1,2-Dibromoethane	106-93-4	0.5	N.D.

INT m.n.

Orange Coast Analytical, Inc.

BOE-C6-0045930

VOLATILE ORGANICS BY GC/MS (EPA 8260) (continued)

Sample Description: Water, TMW-17**Laboratory Sample Number: 00010049****Laboratory Reference #: HLA 11344**

ANALYTE	CAS NUMBER	DETECTION Limit (ug/l)	SAMPLE RESULTS (ug/l)
1,3-Dichloropropane	142-28-9	0.5	N.D.
Isopropylbenzene	98-82-8	0.5	N.D.
1,1,2,2-Tetrachloroethane	79-34-5	0.5	N.D.
1,2,3-Trichloropropane	96-18-4	0.5	N.D.
Bromobenzene	108-86-1	0.5	N.D.
n-Propylbenzene	103-65-1	0.5	N.D.
2-Chlorotoluene	95-49-8	0.5	N.D.
1,3,5-Trimethylbenzene	108-67-8	0.5	N.D.
4-Chlorotoluene	106-43-4	0.5	N.D.
tert-Butylbenzene	98-06-6	0.5	N.D.
1,2,4-Trimethylbenzene	95-63-6	0.5	N.D.
sec-Butylbenzene	135-98-8	0.5	N.D.
4-Isopropyltoluene	99-87-6	0.5	N.D.
1,3-Dichlorobenzene	541-73-1	0.5	N.D.
1,4-Dichlorobenzene	106-46-7	0.5	N.D.
n-Butylbenzene	104-51-8	0.5	N.D.
1,2-Dichlorobenzene	95-50-1	0.5	N.D.
1-2-Dibromo-3-CPA	96-12-8	1.0	N.D.
1,2,4-Trichlorobenzene	120-82-1	0.5	N.D.
Hexachlorobutadiene	87-68-3	0.5	N.D.
Naphthalene	91-20-3	0.5	N.D.
1,2,3-Trichlorobenzene	87-61-6	0.5	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

Surrogate Recoveries %

Dibromofluoromethane	100
Toluene-d8	113
4-Bromofluorobenzene	115

Harding Lawson
Mr. Mark Clardy
2171 Campus Suite #100
Irvine, CA 92626

Client Project ID: Boeing
Client Project #:

Sample Description: Water,
Laboratory Reference #: CDM 111344

Sampled: --- 01/14/00 01/14/00
Received: --- 01/14/00 01/14/00
Reported: 01/17/00 01/17/00 01/17/00

Lab Sample I.D. Method Blank 00010049 00010050
Client Sample I.D. MB0114 TMW-17 TMW-17
-NF

METALS

SAMPLE RESULTS

ANALYTE	DATE TESTED	EPA METHOD	mg/l	mg/l	mg/l
Chromium (VI)	01/14/00	7196	<0.01	<0.01	<0.01

INT--^{WW}

Orange Coast Analytical, Inc

QC DATA REPORT

Analysis : Volatile Organics by GC/MS (EPA 8260)

Date of Analysis : 01/14/00

Laboratory Sample No : 00010047

Laboratory Reference No : HLA 11344

Analyte	R1 (ppb)	SP (ppb)	MS (ppb)	MSD (ppb)	PR1 %	PR2 %	RPD %
Benzene	2.5	20	24	23	108	103	4
1,1-Dichloroethene	0.0	20	19	17	95	85	11
Trichloroethene	0.0	20	22	22	110	110	0
Toluene	6.5	20	27	26	103	98	4
Chlorobenzene	0.0	20	22	21	110	105	5

Definition of Terms :

R1 Results Of First Analysis

SP Spike Concentration Added to Sample

MS Matrix Spike Results

MSD Matrix Spike Duplicate Results

PR1 Percent Recovery Of MS: $\{(MS-R1) / SP\} \times 100$

PR2 Percent Recovery Of MSD: $\{(MSD-R1) / SP\} \times 100$

RPD Relative Percent Difference: $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

QC DATA REPORT

Analysis : Metal

Laboratory Reference No : HLA 11344

Analyte	Date Tested	QC Sample	R1 (ppm)	SP (ppm)	MS (ppm)	MSD (ppm)	PR1 %	PR2 %	RPD %
Chromium (VI)	01/14/00	00010049	0.0	0.50	0.52	0.52	104	104	0

Definition of Terms :

R1	Results Of First Analysis
SP	Spike Concentration Added to Sample
MS	Matrix Spike Results
MSD	Matrix Spike Duplicate Results
PR1	Percent Recovery Of MS: $\{(MS-R1) / SP\} \times 100$
PR2	Percent Recovery Of MSD: $\{(MSD-R1) / SP\} \times 100$
RPD	Relative Percent Difference: $\{(MS-MSD) / (MS+MSD)\} \times 100 \times 2$

WATER ANALYSIS
(METALS)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/10/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: WWP-1
Sampling Date/Time: 01/19/2000 @ 11:00
Sample Collected By: KEN

<u>Constituents</u>	<u>Results</u>	<u>Units</u>	<u>P.Q.L.</u>	<u>M.O.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Total Antimony	*01 None Detected	µg/L	500.	40.	EPA-6010	02/09/00	02/09/00
Total Arsenic	160.	µg/L	4.	3.	EPA-7060	01/21/00	02/01/00
Total Barium	*01 630.	µg/L	100.	5.	EPA-6010	02/09/00	02/09/00
Total Beryllium	None Detected	µg/L	50.	2.	EPA-6010	02/09/00	02/09/00
Total Cadmium	None Detected	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Chromium	*01 300.	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Cobalt	None Detected	µg/L	250.	7.	EPA-6010	02/09/00	02/09/00
Total Copper	110.	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Lead	28.	µg/L	5.	0.4	EPA-7421	01/21/00	01/25/00
Total Mercury	None Detected	µg/L	0.2	0.10	EPA-7470	01/27/00	01/28/00
Total Molybdenum	*06 130.	µg/L	250.	20.	EPA-6010	02/09/00	02/09/00
Total Nickel	*06 30.	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Selenium	13.	µg/L	2.	1.0	SM-3114B	02/04/00	02/04/00
Total Silver	*01 None Detected	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Thallium	1.	µg/L	1.	0.7	EPA-7841	01/21/00	01/25/00
Total Vanadium	50.	µg/L	50.	20.	EPA-6010	02/09/00	02/09/00
Total Zinc	*06 130.	µg/L	250.	4.45	EPA-6010	02/09/00	02/09/00

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).

M.D.L. = Method Detection Limit

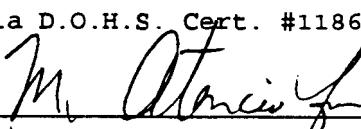
Flag Explanations:

*01 = Note: PQL's and MDL's are raised due to matrix interferences.

*06 = Note: PQL and MDL are raised due to matrix interferences.

Sample result is between the MDL AND PQL.

California D.O.H.S. Cert. #1186


Dan Schultz
Laboratory Director

BC**Laboratories, Inc.**

Page 1

Total Petroleum Hydrocarbons

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 01/26/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: WWP-1
Sampling Date/Time: 01/19/2000 @ 11:00
Sample Collected By: KEN

<u>Constituents</u>	<u>Results</u>	<u>Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/L	1.0	0.3	EPA-418.1	01/21/00	01/21/00

Note: Sample received at pH=10.

California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

TOTAL CONCENTRATIONS
 (California Code of Regulations, Title 22, Section 66261)

Harding Lawson and Associates
 2171 Campus Dr., Suite 100
 Irvine, CA 92612
 Attn: MARK CLARDY 909-888-1690

Date Reported: 02/10/2000
 Date Received: 01/19/2000
 Laboratory No.: 00-00785-2

Project Number: 49311.00.1
 Sampling Location: BOEING
 Sample ID: SP-1

Title 22 Waste Type: Type ii: Liquid with \geq 0.5 % solids.
 Sample Collected By: KEN

<u>Constituents</u>	<u>Sample Results</u>	<u>Units</u>	<u>Method</u>	<u>P.Q.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>STLC</u>	<u>TTLC</u>	<u>Regulatory Criteria</u>
								<u>mg/L</u>	<u>mg/kg</u>	
Antimony	None Detected	mg/kg	5.	SW-6010	01/25/00	02/04/00		15.	500.	
Arsenic	2.	mg/kg	0.5	SW-7060	01/25/00	01/28/00		5.0	500.	
Barium	*31 130.	mg/kg	0.5	SW-6010	01/25/00	02/04/00	100.	10000.		
Beryllium	None Detected	mg/kg	0.5	SW-6010	01/25/00	02/04/00	0.75	75.		
Cadmium	*04 None Detected	mg/kg	0.5	SW-6010	01/25/00	02/04/00	1.0	100.		
Chromium	*05 4.3	mg/kg	0.5	SW-6010	01/25/00	02/04/00	560.	2500.		
Cobalt	None Detected	mg/kg	2.5	SW-6010	01/25/00	02/04/00	80.	8000.		
Copper	*05 2.4	mg/kg	0.5	SW-6010	01/25/00	02/04/00	25.	2500.		
Lead	*05 8.8	mg/kg	2.5	SW-6010	01/25/00	02/04/00	5.0	1000.		
Mercury	** 0.66	mg/kg	0.2	SW-7471	01/25/00	01/26/00	0.2	20.		
Molybdenum	None Detected	mg/kg	2.5	SW-6010	01/25/00	02/04/00	350.	3500.		
Nickel	*31 3.3	mg/kg	2.5	SW-6010	01/25/00	02/04/00	20.	2000.		
Selenium	None Detected	mg/kg	0.5	SW-7740	01/25/00	01/31/00	1.0	100.		
Silver	*04 None Detected	mg/kg	1.	SW-6010	01/25/00	02/04/00	5.0	500.		
Thallium	None Detected	mg/kg	5.	SW-6010	01/25/00	02/04/00	7.0	700.		
Vanadium	*05 6.4	mg/kg	0.5	SW-6010	01/25/00	02/04/00	24.	2400.		
Zinc	*05 15.	mg/kg	2.5	SW-6010	01/25/00	02/04/00	250.	5000.		
Total Petroleum Hydrocarbons	None Detected	mg/kg	20.	EPA-418.1	01/21/00	01/21/00				

(See Last Page for Comments, Definitions, and References)

BC**Laboratories, Inc.**

Page 2

TOTAL CONCENTRATIONS

(California Code of Regulations, Title 22, Section 66261)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/10/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-2

Sample Description: 49311.00.1, BOEING, SP-1, 01/19/2000 @ 11:00, KEN

Comment: All above constituents are reported on an as received (wet) sample basis.
Results reported represent totals (TTLC) as sample subjected to appropriate
techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte
quantifiable based on sample size used and analytical technique employed).
STLC = Soluble Threshold Limit Concentration
TTLC = Total Threshold Limit Concentration

REFERENCES:

SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846.

Flag Explanations:

- ** = Sample precision is not within established limits.
Matrix spike recovery/precision not within established limits. Results
may be biased.
- *04 = Matrix spike recoveries not within established limits, results may be affected.
- *05 = Sample precision is not within established limits.
- *31 = Matrix spike recoveries not within established limits, results may be biased.
Sample precision is not within established limits.

California D.O.H.S. Cert. #1186

Dan Schultz
Laboratory Director

TOTAL CONCENTRATIONS
(California Code of Regulations, Title 22, Section 66261)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/10/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-2
Sampling Date/Time: 01/19/2000 @ 11:00

Title 22 Waste Type: Type ii: Liquid with \geq 0.5 % solids.
Sample Collected By: KEN

<u>Constituents</u>		<u>Sample Results</u>	<u>Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>	<u>Dilution Factor</u>
Antimony		None Detected	mg/kg	5.	0.5	SW-6010	01/25/00	02/04/00	.990099
Arsenic		2.7	mg/kg	0.5	0.2	SW-7060	01/25/00	01/28/00	.990099
Barium	*31	110.	mg/kg	0.5	0.033	SW-6010	01/25/00	02/04/00	.990099
Beryllium		None Detected	mg/kg	0.5	0.029	SW-6010	01/25/00	02/04/00	.990099
Cadmium	*04	None Detected	mg/kg	0.5	0.040	SW-6010	01/25/00	02/04/00	.990099
Chromium	*05	6.9	mg/kg	0.5	0.14	SW-6010	01/25/00	02/04/00	.990099
Cobalt		None Detected	mg/kg	2.5	0.041	SW-6010	01/25/00	02/04/00	.990099
Copper	*05	2.9	mg/kg	0.5	0.006	SW-6010	01/25/00	02/04/00	.990099
Lead	*05	8.3	mg/kg	2.5	0.02	SW-6010	01/25/00	02/04/00	.990099
Mercury	**	None Detected	mg/kg	0.2	0.074	SW-7471	01/25/00	01/26/00	.919117
Molybdenum		None Detected	mg/kg	2.5	0.2	SW-6010	01/25/00	02/04/00	.990099
Nickel	*31	4.5	mg/kg	2.5	0.17	SW-6010	01/25/00	02/04/00	.990099
Selenium		None Detected	mg/kg	0.5	0.2	SW-7740	01/25/00	01/31/00	.990099
Silver	*04	None Detected	mg/kg	1.	0.047	SW-6010	01/25/00	02/04/00	.990099
Thallium		None Detected	mg/kg	5.	0.4	SW-6010	01/25/00	02/04/00	.990099
Vanadium	*05	8.5	mg/kg	0.5	0.044	SW-6010	01/25/00	02/04/00	.990099
Zinc	*05	18.	mg/kg	2.5	0.075	SW-6010	01/25/00	02/04/00	.990099

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TOTAL CONCENTRATIONS

(California Code of Regulations, Title 22, Section 66261)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/10/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Sample Description: 49311.00.1, BOEING, SP-2, 01/19/2000 @ 11:00, KEN

Comment: All above constituents are reported on an as received (wet) sample basis.
Results reported represent totals (TTLC) as sample subjected to appropriate
techniques to determine total levels.

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte
quantifiable based on sample size used and analytical technique employed).

STLC = Soluble Threshold Limit Concentration

TTLC = Total Threshold Limit Concentration

REFERENCES:

SW = "Test Methods for Evaluating Solid Wastes Physical/Chemical Methods", EPA-SW-846.

Flag Explanations:

** = Sample precision is not within established limits.

Matrix spike recovery/precision not within established limits. Results
may be biased.

*04 = Matrix spike recoveries not within established limits, results may be affected.

*05 = Sample precision is not within established limits.

*31 = Matrix spike recoveries not within established limits, results may be biased.
Sample precision is not within established limits.

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Dan Schultz
Laboratory Director

BC**Laboratories, Inc.**

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Total Petroleum Hydrocarbons

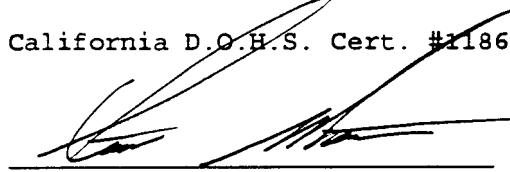
Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 01/26/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-2

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-1
Sampling Date/Time: 01/19/2000 @ 11:00
Sample Collected By: KEN

<u>Constituents</u>	<u>Results</u>	<u>Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	10.	EPA-418.1	01/21/00	01/21/00

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Stuart G. Buttram
Department Supervisor

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Total Petroleum Hydrocarbons

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 01/26/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-2
Sampling Date/Time: 01/19/2000 @ 11:00
Sample Collected By: KEN

<u>Constituents</u>	<u>Results</u>	<u>Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>	<u>Method</u>	<u>Date Prepared</u>	<u>Date Analyzed</u>
Total Recoverable Petroleum Hydrocarbons	None Detected	mg/kg	20.	10.	EPA-418.1	01/21/00	01/21/00

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Stuart G. Buttram
Department Supervisor

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PCBs
(EPA Method 8082)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: WWP-1
Sample Matrix: Water
Sample Collected By: KEN

Date Reported: 01/26/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/21/2000
Date Analyzed: 01/21/2000 @ 21:22
Analyst: SPB
Dilution Used: 1

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>
PCB-1016	None Detected	µg/L	0.2	0.002
PCB-1221	None Detected	µg/L	0.2	0.002
PCB-1232	None Detected	µg/L	0.2	0.002
PCB-1242	None Detected	µg/L	0.2	0.032
PCB-1248	None Detected	µg/L	0.2	0.022
PCB-1254	None Detected	µg/L	0.2	0.002
PCB-1260	None Detected	µg/L	0.2	0.046
Total PCB's (Summation)	None Detected	µg/L	0.2	0.002

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
Decachlorobiphenyl	63.	60-140

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).

M.D.L. = Method Detection Limit
California D.O.H.S. Cert. #1186

Stuart G. Buttram
Department Supervisor

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PCBs
(EPA Method 8082)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-2

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-1
Sample Matrix: soil
Sample Collected By: KEN

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/24/2000
Date Analyzed: 01/29/2000 @ 05:19

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>P.Q.L.</u>	<u>M.D.L.</u>
PCB-1016	None Detected	mg/kg	0.01	0.005
PCB-1221	None Detected	mg/kg	0.01	0.005
PCB-1232	None Detected	mg/kg	0.01	0.005
PCB-1242	None Detected	mg/kg	0.01	0.00093
PCB-1248	None Detected	mg/kg	0.01	0.005
PCB-1254	None Detected	mg/kg	0.01	0.00078
PCB-1260	None Detected	mg/kg	0.01	0.0015
Total PCB's (Summation)	None Detected	mg/kg	0.01	0.005

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
Decachlorobiphenyl	80.	60-140

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).

M.D.L. = Method Detection Limit
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Stuart G. Buttram
Department Supervisor

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PCBs
(EPA Method 8082)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-2
Sample Matrix: soil
Sample Collected By: KEN

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/24/2000
Date Analyzed: 01/29/2000 @ 12:30

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>P.O.L.</u>	<u>M.D.L.</u>
PCB-1016	None Detected	mg/kg	0.01	0.005
PCB-1221	None Detected	mg/kg	0.01	0.005
PCB-1232	None Detected	mg/kg	0.01	0.005
PCB-1242	None Detected	mg/kg	0.01	0.00093
PCB-1248	None Detected	mg/kg	0.01	0.005
PCB-1254	None Detected	mg/kg	0.01	0.00078
PCB-1260	None Detected	mg/kg	0.01	0.0015
Total PCB's (Summation)	None Detected	mg/kg	0.01	0.005

Quality Control Data

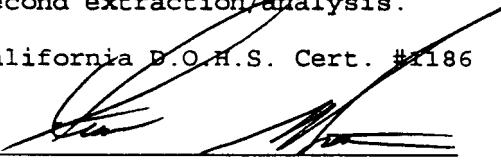
<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
Decachlorobiphenyl	53.	60-140

P.Q.L. = Practical Quantitation Limit (refers to the least amount of analyte quantifiable based on sample size used and analytical technique employed).

M.D.L. = Method Detection Limit

Surrogate is low due to matrix interference. Interference verified through second extraction/analysis.

California D.O.H.S. Cert. #1186


Stuart G. Buttram
Department Supervisor

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Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: WWP-1
Sample Matrix: Water
Sample Collected By: KEN

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/24/2000
Date Analyzed: 01/24/2000 @ 17:16
Dilution Used: 1

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Benzene	None Detected	µg/L	0.5	0.062
Bromobenzene	None Detected	µg/L	0.5	0.057
Bromochloromethane	None Detected	µg/L	0.5	0.095
Bromodichloromethane	0.32	µg/L	0.5	0.10 *02
Bromoform	None Detected	µg/L	0.5	0.079
Bromomethane	None Detected	µg/L	0.5	0.11
n-Butylbenzene	None Detected	µg/L	0.5	0.083
sec-Butylbenzene	None Detected	µg/L	0.5	0.017
tert-Butylbenzene	None Detected	µg/L	0.5	0.081
Carbon tetrachloride	None Detected	µg/L	0.5	0.065
Chlorobenzene	None Detected	µg/L	0.5	0.047
Chloroethane	None Detected	µg/L	0.5	0.086
Chloroform	3.2	µg/L	0.5	0.11
Chloromethane	None Detected	µg/L	0.5	0.13
2-Chlorotoluene	None Detected	µg/L	0.5	0.072
4-Chlorotoluene	None Detected	µg/L	0.5	0.061
Dibromochloromethane	0.49	µg/L	0.5	0.056 *02
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	1.	0.40
1,2-Dibromoethane	None Detected	µg/L	0.5	0.035
Dibromomethane	None Detected	µg/L	0.5	0.094
1,2-Dichlorobenzene	None Detected	µg/L	0.5	0.096
1,3-Dichlorobenzene	None Detected	µg/L	0.5	0.065
1,4-Dichlorobenzene	None Detected	µg/L	0.5	0.065
Dichlorodifluoromethane	None Detected	µg/L	0.5	0.085 *03
1,1-Dichloroethane	None Detected	µg/L	0.5	0.065
1,2-Dichloroethane	None Detected	µg/L	0.5	0.080
1,1-Dichloroethene	None Detected	µg/L	0.5	0.075
cis-1,2-Dichloroethene	None Detected	µg/L	0.5	0.13
trans-1,2-Dichloroethene	None Detected	µg/L	0.5	0.13
1,2-Dichloropropane	None Detected	µg/L	0.5	0.074
1,3-Dichloropropane	None Detected	µg/L	0.5	0.078
2,2-Dichloropropane	None Detected	µg/L	0.5	0.32
1,1-Dichloropropene	None Detected	µg/L	0.5	0.072
cis-1,3-Dichloropropene	None Detected	µg/L	0.5	0.053
trans-1,3-Dichloropropene	None Detected	µg/L	0.5	0.054
Ethyl Benzene	0.17	µg/L	0.5	0.051 *02
Hexachlorobutadiene	None Detected	µg/L	0.5	0.073
Isopropylbenzene	None Detected	µg/L	0.5	0.074
p-Isopropyltoluene	None Detected	µg/L	0.5	0.064
Methylene Chloride	0.43	µg/L	1.	0.15 *02
Naphthalene	0.36	µg/L	0.5	0.11 *02
n-Propylbenzene	None Detected	µg/L	0.5	0.059

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Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1

Sample Description: 49311.00.1, BOEING, WWP-1, 01/19/2000 @ 11:00, KEN

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Styrene	None Detected	µg/L	0.5	0.061
1,1,1,2-Tetrachloroethane	None Detected	µg/L	0.5	0.057
1,1,2,2-Tetrachloroethane	None Detected	µg/L	0.5	0.094
Tetrachloroethene	None Detected	µg/L	0.5	0.059
Toluene	3.6	µg/L	0.5	0.094
1,2,3-Trichlorobenzene	None Detected	µg/L	0.5	0.12
1,2,4-Trichlorobenzene	None Detected	µg/L	0.5	0.085
1,1,1-Trichloroethane	None Detected	µg/L	0.5	0.076
1,1,2-Trichloroethane	None Detected	µg/L	0.5	0.10
Trichloroethene	2.0	µg/L	0.5	0.12
Trichlorofluoromethane	None Detected	µg/L	0.5	0.07
1,2,3-Trichloropropane	None Detected	µg/L	0.5	0.23
1,1,2-Trichloro-				
1,2,2-trifluoroethane	None Detected	µg/L	0.5	0.070
1,2,4-Trimethylbenzene	0.11	µg/L	0.5	0.062 *02
1,3,5-Trimethylbenzene	None Detected	µg/L	0.5	0.07
Vinyl Chloride	None Detected	µg/L	0.5	0.050
Total Xylenes	0.84	µg/L	1.	0.16 *02-
Methyl-t-butylether	1.4	µg/L	0.5	0.14

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
1,2-Dichloroethane-d4	98.	76-114
Toluene-d8	102.	88-110
4-Bromofluorobenzene	99.	86-115

Flag Explanations:

*02 = Sample result is between the MDL and PQL.

*03 = CCV recovery not within method limits.

California D.O.H.S. Cert. #1186



Stuart G. Buttram
Department Supervisor

Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1TB

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: WWP-1 TB
Sample Matrix: Water
Sample Collected By: KEN

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/24/2000
Date Analyzed: 01/24/2000 @ 16:37
Dilution Used: 1

Constituents	Analysis Results	Reporting Units	Method P.O.L.	Method Detection Level
Benzene	None Detected	µg/L	0.5	0.062
Bromobenzene	None Detected	µg/L	0.5	0.057
Bromochloromethane	None Detected	µg/L	0.5	0.095
Bromodichloromethane	None Detected	µg/L	0.5	0.10
Bromoform	None Detected	µg/L	0.5	0.079
Bromomethane	None Detected	µg/L	0.5	0.11
n-Butylbenzene	None Detected	µg/L	0.5	0.083
sec-Butylbenzene	None Detected	µg/L	0.5	0.017
tert-Butylbenzene	None Detected	µg/L	0.5	0.081
Carbon tetrachloride	None Detected	µg/L	0.5	0.065
Chlorobenzene	None Detected	µg/L	0.5	0.047
Chloroethane	None Detected	µg/L	0.5	0.086
Chloroform	None Detected	µg/L	0.5	0.11
Chloromethane	None Detected	µg/L	0.5	0.13
2-Chlorotoluene	None Detected	µg/L	0.5	0.072
4-Chlorotoluene	None Detected	µg/L	0.5	0.061
Dibromochloromethane	None Detected	µg/L	0.5	0.056
1,2-Dibromo-3-Chloropropane	None Detected	µg/L	1.	0.40
1,2-Dibromoethane	None Detected	µg/L	0.5	0.035
Dibromomethane	None Detected	µg/L	0.5	0.094
1,2-Dichlorobenzene	None Detected	µg/L	0.5	0.096
1,3-Dichlorobenzene	None Detected	µg/L	0.5	0.065
1,4-Dichlorobenzene	None Detected	µg/L	0.5	0.065
Dichlorodifluoromethane	None Detected	µg/L	0.5	0.085 *03
1,1-Dichloroethane	None Detected	µg/L	0.5	0.065
1,2-Dichloroethane	None Detected	µg/L	0.5	0.080
1,1-Dichloroethene	None Detected	µg/L	0.5	0.075
cis-1,2-Dichloroethene	None Detected	µg/L	0.5	0.13
trans-1,2-Dichloroethene	None Detected	µg/L	0.5	0.13
1,2-Dichloropropane	None Detected	µg/L	0.5	0.074
1,3-Dichloropropane	None Detected	µg/L	0.5	0.078
2,2-Dichloropropane	None Detected	µg/L	0.5	0.32
1,1-Dichloropropene	None Detected	µg/L	0.5	0.072
cis-1,3-Dichloropropene	None Detected	µg/L	0.5	0.053
trans-1,3-Dichloropropene	None Detected	µg/L	0.5	0.054
Ethyl Benzene	None Detected	µg/L	0.5	0.051
Hexachlorobutadiene	None Detected	µg/L	0.5	0.073
Isopropylbenzene	None Detected	µg/L	0.5	0.074
p-Isopropyltoluene	None Detected	µg/L	0.5	0.064
Methylene Chloride	0.22	µg/L	1.	0.15 *02
Naphthalene	None Detected	µg/L	0.5	0.11
n-Propylbenzene	None Detected	µg/L	0.5	0.059

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Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-1TB

Sample Description: 49311.00.1, BOEING, WWP-1 TB, 01/19/2000 @ 11:00, KEN

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Styrene	None Detected	µg/L	0.5	0.061
1,1,1,2-Tetrachloroethane	None Detected	µg/L	0.5	0.057
1,1,2,2-Tetrachloroethane	None Detected	µg/L	0.5	0.094
Tetrachloroethene	None Detected	µg/L	0.5	0.059
Toluene	None Detected	µg/L	0.5	0.094
1,2,3-Trichlorobenzene	None Detected	µg/L	0.5	0.12
1,2,4-Trichlorobenzene	None Detected	µg/L	0.5	0.085
1,1,1-Trichloroethane	None Detected	µg/L	0.5	0.076
1,1,2-Trichloroethane	None Detected	µg/L	0.5	0.10
Trichloroethene	None Detected	µg/L	0.5	0.12
Trichlorofluoromethane	None Detected	µg/L	0.5	0.07
1,2,3-Trichloropropane	None Detected	µg/L	0.5	0.23
1,1,2-Trichloro-1,2,2-trifluoroethane	None Detected	µg/L	0.5	0.070
1,2,4-Trimethylbenzene	None Detected	µg/L	0.5	0.062
1,3,5-Trimethylbenzene	None Detected	µg/L	0.5	0.07
Vinyl Chloride	None Detected	µg/L	0.5	0.050
Total Xylenes	None Detected	µg/L	1.	0.16
Methyl-t-butylether	0.17	µg/L	0.5	0.14 *02

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
1,2-Dichloroethane-d4	100.	76-114
Toluene-d8	102.	88-110
4-Bromofluorobenzene	98.	86-115

Flag Explanations:

- *02 = Sample result is between the MDL and PQL.
- *03 = CCV recovery not within method limits.

California D.O.H.S. Cert. #1186



Stuart G. Buttram
Department Supervisor

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Laboratories, Inc.

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Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-2

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-1
Sample Matrix: Water
Sample Collected By: KEN

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/21/2000
Date Analyzed: 01/21/2000 @ 23:59
Dilution Used: 1

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Benzene	None Detected	mg/kg	0.005	0.00069
Bromobenzene	None Detected	mg/kg	0.005	0.00056
Bromochloromethane	None Detected	mg/kg	0.005	0.0004
Bromodichloromethane	None Detected	mg/kg	0.005	0.00059
Bromoform	None Detected	mg/kg	0.005	0.00050
Bromomethane	None Detected	mg/kg	0.005	0.0014
n-Butylbenzene	None Detected	mg/kg	0.005	0.0004
sec-Butylbenzene	None Detected	mg/kg	0.005	0.0004
tert-Butylbenzene	None Detected	mg/kg	0.005	0.0004
Carbon tetrachloride	None Detected	mg/kg	0.005	0.0015
Chlorobenzene	None Detected	mg/kg	0.005	0.00052
Chloroethane	None Detected	mg/kg	0.005	0.00096
Chloroform	None Detected	mg/kg	0.005	0.00065
Chloromethane	None Detected	mg/kg	0.005	0.00089
2-Chlorotoluene	None Detected	mg/kg	0.005	0.0003
4-Chlorotoluene	None Detected	mg/kg	0.005	0.0006
Dibromochloromethane	None Detected	mg/kg	0.005	0.00045
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005	0.0019
1,2-Dibromoethane	None Detected	mg/kg	0.005	0.0003
Dibromomethane	None Detected	mg/kg	0.005	0.0005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005	0.00045
1,3-Dichlorobenzene	None Detected	mg/kg	0.005	0.0005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005	0.00048
Dichlorodifluoromethane	None Detected	mg/kg	0.005	0.0010
1,1-Dichloroethane	None Detected	mg/kg	0.005	0.00078
1,2-Dichloroethane	None Detected	mg/kg	0.005	0.00084
1,1-Dichloroethene	None Detected	mg/kg	0.005	0.0011
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005	0.00067
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005	0.0010
1,2-Dichloropropane	None Detected	mg/kg	0.005	0.00062
1,3-Dichloropropane	None Detected	mg/kg	0.005	0.0005
2,2-Dichloropropane	None Detected	mg/kg	0.005	0.0007
1,1-Dichloropropene	None Detected	mg/kg	0.005	0.0005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005	0.00060
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005	0.00040
Ethyl Benzene	None Detected	mg/kg	0.005	0.00074
Hexachlorobutadiene	None Detected	mg/kg	0.005	0.0007
Isopropylbenzene	None Detected	mg/kg	0.005	0.0003
p-Isopropyltoluene	None Detected	mg/kg	0.005	0.0003
Methylene Chloride	None Detected	mg/kg	0.01	0.0010
Naphthalene	None Detected	mg/kg	0.005	0.0006
n-Propylbenzene	None Detected	mg/kg	0.005	0.0004

Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-2

Sample Description: 49311.00.1, BOEING, SP-1, 01/19/2000 @ 11:00, KEN

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Styrene	None Detected	mg/kg	0.005	0.0004
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005	0.00033
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005	0.00066
Tetrachloroethene	None Detected	mg/kg	0.005	0.0008
Toluene	None Detected	mg/kg	0.005	0.00055
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005	0.0006
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005	0.0006
1,1,1-Trichloroethane	None Detected	mg/kg	0.005	0.0011
1,1,2-Trichloroethane	None Detected	mg/kg	0.005	0.0006
Trichloroethene	None Detected	mg/kg	0.005	0.00064
Trichlorofluoromethane	None Detected	mg/kg	0.005	0.0012
1,2,3-Trichloropropane	None Detected	mg/kg	0.005	0.00074
1,1,2-Trichloro- 1,2,2-trifluoroethane	None Detected	mg/kg	0.005	0.0012
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005	0.0003
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005	0.0004
Vinyl Chloride	None Detected	mg/kg	0.005	0.0011
Total Xylenes	None Detected	mg/kg	0.01	0.0016
Methyl-t-butylether	None Detected	mg/kg	0.005	0.0025

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>
1,2-Dichloroethane-d4	121.	70-121
Toluene-d8	89.	81-117
4-Bromofluorobenzene	105.	74-121

California D.O.H.S Cert. #1186

Stuart G. Buttram
Department Supervisor

Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Project Number: 49311.00.1
Sampling Location: BOEING
Sample ID: SP-2
Sample Matrix: Water
Sample Collected By: KEN

Date Collected: 01/19/2000 @ 11:00
Date Extracted: 01/21/2000
Date Analyzed: 01/21/2000 @ 22:43
Dilution Used: 1

<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Benzene	None Detected	mg/kg	0.005	0.00069
Bromobenzene	None Detected	mg/kg	0.005	0.00056
Bromochloromethane	None Detected	mg/kg	0.005	0.0004
Bromodichloromethane	None Detected	mg/kg	0.005	0.00059
Bromoform	None Detected	mg/kg	0.005	0.00050
Bromomethane	None Detected	mg/kg	0.005	0.0014
n-Butylbenzene	None Detected	mg/kg	0.005	0.0004
sec-Butylbenzene	None Detected	mg/kg	0.005	0.0004
tert-Butylbenzene	None Detected	mg/kg	0.005	0.0004
Carbon tetrachloride	None Detected	mg/kg	0.005	0.0015
Chlorobenzene	None Detected	mg/kg	0.005	0.00052
Chloroethane	None Detected	mg/kg	0.005	0.00096
Chloroform	None Detected	mg/kg	0.005	0.00065
Chloromethane	None Detected	mg/kg	0.005	0.00089
2-Chlorotoluene	None Detected	mg/kg	0.005	0.0003
4-Chlorotoluene	None Detected	mg/kg	0.005	0.0006
Dibromochloromethane	None Detected	mg/kg	0.005	0.00045
1,2-Dibromo-3-Chloropropane	None Detected	mg/kg	0.005	0.0019
1,2-Dibromoethane	None Detected	mg/kg	0.005	0.0003
Dibromomethane	None Detected	mg/kg	0.005	0.0005
1,2-Dichlorobenzene	None Detected	mg/kg	0.005	0.00045
1,3-Dichlorobenzene	None Detected	mg/kg	0.005	0.0005
1,4-Dichlorobenzene	None Detected	mg/kg	0.005	0.00048
Dichlorodifluoromethane	None Detected	mg/kg	0.005	0.0010
1,1-Dichloroethane	None Detected	mg/kg	0.005	0.00078
1,2-Dichloroethane	None Detected	mg/kg	0.005	0.00084
1,1-Dichloroethene	None Detected	mg/kg	0.005	0.0011
cis-1,2-Dichloroethene	None Detected	mg/kg	0.005	0.00067
trans-1,2-Dichloroethene	None Detected	mg/kg	0.005	0.0010
1,2-Dichloropropane	None Detected	mg/kg	0.005	0.00062
1,3-Dichloropropane	None Detected	mg/kg	0.005	0.0005
2,2-Dichloropropane	None Detected	mg/kg	0.005	0.0007
1,1-Dichloropropene	None Detected	mg/kg	0.005	0.0005
cis-1,3-Dichloropropene	None Detected	mg/kg	0.005	0.00060
trans-1,3-Dichloropropene	None Detected	mg/kg	0.005	0.00040
Ethyl Benzene	None Detected	mg/kg	0.005	0.00074
Hexachlorobutadiene	None Detected	mg/kg	0.005	0.0007
Isopropylbenzene	None Detected	mg/kg	0.005	0.0003
p-Isopropyltoluene	None Detected	mg/kg	0.005	0.0003
Methylene Chloride	None Detected	mg/kg	0.01	0.0010
Naphthalene	None Detected	mg/kg	0.005	0.0006
n-Propylbenzene	None Detected	mg/kg	0.005	0.0004

Volatile Organic Analysis
(EPA Method 8260)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
Attn: MARK CLARDY 909-888-1690

Date Reported: 02/02/2000
Date Received: 01/19/2000
Laboratory No.: 00-00785-3

Sample Description: 49311.00.1, BOEING, SP-2, 01/19/2000 @ 11:00, KEN

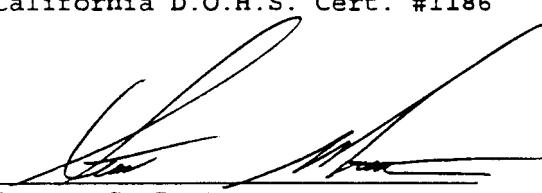
<u>Constituents</u>	<u>Analysis Results</u>	<u>Reporting Units</u>	<u>Method P.O.L.</u>	<u>Method Detection Level</u>
Styrene	None Detected	mg/kg	0.005	0.0004
1,1,1,2-Tetrachloroethane	None Detected	mg/kg	0.005	0.00033
1,1,2,2-Tetrachloroethane	None Detected	mg/kg	0.005	0.00066
Tetrachloroethene	None Detected	mg/kg	0.005	0.0008
Toluene	None Detected	mg/kg	0.005	0.00055
1,2,3-Trichlorobenzene	None Detected	mg/kg	0.005	0.0006
1,2,4-Trichlorobenzene	None Detected	mg/kg	0.005	0.0006
1,1,1-Trichloroethane	None Detected	mg/kg	0.005	0.0011
1,1,2-Trichloroethane	None Detected	mg/kg	0.005	0.0006
Trichloroethene	None Detected	mg/kg	0.005	0.00064
Trichlorofluoromethane	None Detected	mg/kg	0.005	0.0012
1,2,3-Trichloropropane	None Detected	mg/kg	0.005	0.00074
1,1,2-Trichloro-				
1,2,2-trifluoroethane	None Detected	mg/kg	0.005	0.0012
1,2,4-Trimethylbenzene	None Detected	mg/kg	0.005	0.0003
1,3,5-Trimethylbenzene	None Detected	mg/kg	0.005	0.0004
Vinyl Chloride	None Detected	mg/kg	0.005	0.0011
Total Xylenes	None Detected	mg/kg	0.01	0.0016
Methyl-t-butylether	None Detected	mg/kg	0.005	0.0025

Quality Control Data

<u>Surrogates</u>	<u>% Recovery</u>	<u>Control Limits</u>	
1,2-Dichloroethane-d4	126.	70-121	*21
Toluene-d8	90.	81-117	
4-Bromofluorobenzene	106.	74-121	

Flag Explanations:

*21 = Surrogate recovery not within established limits.
California D.O.H.S. Cert. #1186



Stuart G. Buttram
Department Supervisor



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Date of Report: 02/28/2000
Sample Matrix: Water
OC Batch ID: 200000785-1*TTLC

Constituents	Method Blank Readings	Units
Total Antimony	<100.	$\mu\text{g/L}$
Total Arsenic	< 2.	$\mu\text{g/L}$
Total Barium	<100.	$\mu\text{g/L}$
Total Beryllium	<10.	$\mu\text{g/L}$
Total Cadmium	<10.	$\mu\text{g/L}$
Total Chromium	<10.	$\mu\text{g/L}$
Total Cobalt	<50.	$\mu\text{g/L}$
Total Copper	<10.	$\mu\text{g/L}$
Total Lead	< 5.	$\mu\text{g/L}$
Total Mercury	< 0.2	$\mu\text{g/L}$
Total Molybdenum	<50.	$\mu\text{g/L}$
Total Nickel	<10.	$\mu\text{g/L}$
Total Selenium	< 2.	$\mu\text{g/L}$
Total Silver	<10.	$\mu\text{g/L}$
Total Thallium	< 1.	$\mu\text{g/L}$
Total Vanadium	<10.	$\mu\text{g/L}$
Total Zinc	7.2	$\mu\text{g/L}$

The trace detection for zinc is an estimated value between the MDL and PQL.

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Constituents	OC Sample ID	Result	Sample	Sample	MS	MSD	Spike	Spike	Sample	Sample	Precision	
			Duplicate	Result	Result	Result	Level	Level	R.P.D.	R.P.D.	Control	
Total Antimony	TOTAL-864-1	<100.	392.8	399.3	400.0	400.0	µg/L	µg/L	<PQL	2.	20 97.	99.
Total Arsenic	TOTAL-789-10C	1.460	1.150	20.06	20.25	20.00	20.00	µg/L	<PQL	1.	20 93.	94.
Total Barium	TOTAL-864-1	354.1	363.7	555.9	561.2	200.0	200.0	µg/L	<PQL	1.	20 101.	104.
Total Beryllium	TOTAL-864-1	< 10.	< 10.	196.4	202.1	200.0	200.0	µg/L	<PQL	3.	20 98.	101.
Total Cadmium	TOTAL-864-1	< 10.	< 10.	183.2	188.0	200.0	200.0	µg/L	<PQL	3.	20 93.	95.
Total Chromium	TOTAL-864-1	< 10.	< 10.	200.2	203.5	200.0	200.0	µg/L	<PQL	2.	20 102.	103.
Total Cobalt	TOTAL-864-1	< 50.	< 50.	192.6	196.8	200.0	200.0	µg/L	<PQL	2.	20 97.	99.
Total Copper	TOTAL-864-1	< 10.	< 10.	188.0	191.8	200.0	200.0	µg/L	<PQL	2.	20 98.	100.
Total Lead	TOTAL-789-1	< 5.	< 5.	17.54	17.80	20.00	20.00	µg/L	<PQL	1.	20 88.	89.
Total Mercury	TOTAL-00747-1	< 0.2	< 0.2	1.125	1.023	1.000	1.000	µg/L	<PQL	10.	20 105.	95.
Total Molybdenum	TOTAL-864-1	< 50.	< 50.	206.1	213.2	200.0	200.0	µg/L	<PQL	3.	20 103.	107.
Total Nickel	TOTAL-864-1	< 10.	6.400	396.0	407.7	400.0	400.0	µg/L	<PQL	3.	20 98.	101.
Total Selenium	DISS-647-1	< 2.	< 2.	16.64	17.54	20.00	20.00	µg/L	<PQL	5.	20 84.	88.
Total Silver	TOTAL-864-1	< 10.	< 10.	194.3	194.6	200.0	200.0	µg/L	<PQL	0.	20 98.	98.
Total Thallium	TOTAL-789-1	< 1.	< 1.	23.33	23.25	20.00	20.00	µg/L	<PQL	0.	20 117.	117.
Total Vanadium	TOTAL-864-1	< 10.	< 10.	196.3	199.9	200.0	200.0	µg/L	<PQL	2.	20 98.	100.
Total Zinc	TOTAL-864-1	21.50	45.20	214.5	241.9	200.0	200.0	µg/L	<PQL	12.	20 97.	110.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer
Anthony Bonanno

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Court • Bakersfield, CA 93308 • (661) 327-4911 • FAX (661) 327-1918 • www.bclabs.com



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*TTL

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Total Antimony	TOTAL-LCSW	4.06 .90	4.00.	µg/L	102.	85 - 115
Total Arsenic	TOTAL-LCSW	21.040	20.	µg/L	105.	80 - 120
Total Barium	TOTAL-LCSW	198.60	200.	µg/L	99.	85 - 115
Total Beryllium	TOTAL-LCSW	202.50	200.	µg/L	101.	85 - 115
Total Cadmium	TOTAL-LCSW	187.70	200.	µg/L	94.	85 - 115
Total Chromium	TOTAL-LCSW	207.70	200.	µg/L	104.	85 - 115
Total Cobalt	TOTAL-LCSW	199.30	200.	µg/L	100.	85 - 115
Total Copper	TOTAL-LCSW	200.00	200.	µg/L	100.	85 - 115
Total Lead	TOTAL-LCSW	20.520	20.	µg/L	103.	80 - 120
Total Mercury	LCSW1-01-2	0.97678	1.0	µg/L	98.	85 - 115
Total Molybdenum	TOTAL-LCSW	208.00	200.	µg/L	104.	85 - 115
Total Nickel	TOTAL-LCSW	4.06 .70	4.00.	µg/L	102.	85 - 115
Total Selenium	LCSW2-02-0	8.5600	10.	µg/L	86.	85 - 115
Total Silver	TOTAL-LCSW	196.50	200.	µg/L	98.	85 - 115
Total Thallium	TOTAL-LCSW	22.490	20.	µg/L	112.	80 - 120
Total Vanadium	TOTAL-LCSW	199.70	200.	µg/L	100.	85 - 115
Total Zinc	TOTAL-LCSW	208.90	200.	µg/L	104.	85 - 115

Quality Control Officer
Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
STANDARD TTLC CONSTITUENTS

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*TTLC

Samples Affected: 00-00785-2, 00-00785-3

Constituents	Method Blank Readings	Units
Antimony	< 5.	mg/kg
Arsenic	< 0.5	mg/kg
Barium	< 0.5	mg/kg
Beryllium	< 0.5	mg/kg
Cadmium	< 0.5	mg/kg
Chromium	< 0.5	mg/kg
Cobalt	< 2.5	mg/kg
Copper	< 0.5	mg/kg
Lead	< 2.5	mg/kg
Mercury	< 0.1	mg/kg
Molybdenum	< 2.5	mg/kg
Nickel	< 2.5	mg/kg
Selenium	< 0.5	mg/kg
Silver	< 1.	mg/kg
Thallium	< 5.	mg/kg
Vanadium	< 0.5	mg/kg
Zinc	< 2.5	mg/kg

Quality Control Officer
Anthony Bonanno



BC Laboratories, Inc

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
STANDARD TTLC CONSTITUENTS

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2•TTL

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MS Level	MS Spike Level	MS Spike	MS	Precision	Accuracy			
									R.P.D.	R.P.D.	Control		
Antimony	HP-785-2	< 5.	< 5.	30.28	31.00	96.15	96.15	mg/kg	<PQL	2.	20 31.	32.	16 - 119
Arsenic	HP-785-2-X5	2.075	2.536	6.935	6.315	4.808	4.808	mg/kg	<PQL	9.	20 101.	88.	1.75 - 125
Barium	HP-785-2	116.0	152.7	256.8	227.8	96.15	96.15	mg/kg	<PQL	12.	20 146.	116.	1.75 - 125
Beryllium	HP-785-2	0.35581	0.46631	8.736	8.062	9.615	9.615	mg/kg	<PQL	8.	20 87.	80.	1.75 - 125
Cadmium	HP-785-2	< 0.5	< 0.5	7.712	7.125	9.615	9.615	mg/kg	<PQL	8.	20 78.	72.	1.75 - 125
Chromium	HP-785-2	3.620	5.058	94.71	86.30	96.15	96.15	mg/kg	<PQL	9.	20 95.	86.	1.75 - 125
Cobalt	HP-785-2	< 2.5	1.442	83.85	77.12	96.15	96.15	mg/kg	<PQL	8.	20 86.	79.	1.75 - 125
Copper	HP-785-2	1.930	2.880	87.74	81.59	96.15	96.15	mg/kg	<PQL	7.	20 89.	83.	1.75 - 125
Lead	HP-785-2	7.659	9.894	101.1	92.98	96.15	96.15	mg/kg	<PQL	8.	20 97.	89.	1.75 - 125
Mercury	00785-2	0.65931	0.43381	1.117	0.89621	0.83331	0.75761	mg/kg	<PQL	22.	20 55.	31.	85 - 115
Molybdenum	HP-785-2	< 2.5	< 2.5	88.12	81.15	96.15	96.15	mg/kg	<PQL	8.	20 91.	84.	1.75 - 125
Nickel	HP-785-2	2.817	3.726	78.51	71.83	96.15	96.15	mg/kg	<PQL	9.	20 79.	72.	1.75 - 125
Selenium	HP-785-2-X5	< 0.5	< 0.5	5.171	4.625	4.808	4.808	mg/kg	<PQL	11.	20 105.	93.	1.75 - 125
Silver	HP-785-2	< 1.	< 1.	3.774	7.880	9.615	9.615	mg/kg	<PQL	70.	20 43.	86.	1.75 - 125
Thallium	HP-785-2	< 5.	< 5.	89.62	81.44	96.15	96.15	mg/kg	<PQL	10.	20 94.	85.	1.75 - 125
Vanadium	HP-785-2	5.490	7.221	88.17	80.34	96.15	96.15	mg/kg	<PQL	9.	20 86.	78.	1.75 - 125
Zinc	HP-785-2	13.23	16.54	106.4	96.30	96.15	96.15	mg/kg	<PQL	10.	20 97.	86.	1.75 - 125



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
STANDARD TTLC CONSTITUENTS

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

The sample RPDs for barium, chromium, copper, mercury, vanadium, and zinc
the spike RPDs for mercury and silver, and the matrix spike recoveries
for barium, cadmium, mercury, nickel, and silver are outside QC limits.
The sample report is flagged accordingly.

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*TTLC

Quality Control Officer
Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
STANDARD TRLC CONSTITUENTS

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*TRLC

Samples Affected: 00-00785-2, 00-00785-3

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Antimony	HP-LCSW1-1	2.1670	2.	mg/L	108.	80 - 120
Arsenic	HP-LCSW1-1	0.11605	0.1000	mg/L	116.	80 - 120
Barium	HP-LCSW1-1	2.0950	2.00	mg/L	105.	80 - 120
Beryllium	HP-LCSW1-1	0.19790	0.2000	mg/L	99.	80 - 120
Cadmium	HP-LCSW1-1	0.18390	0.2000	mg/L	92.	80 - 120
Chromium	HP-LCSW1-1	2.1690	2.	mg/L	108.	80 - 120
Cobalt	HP-LCSW1-1	2.0080	2.	mg/L	100.	80 - 120
Copper	HP-LCSW1-1	2.0040	2.	mg/L	100.	80 - 120
Lead	HP-LCSW1-1	2.2220	2.	mg/L	111.	80 - 120
Mercury	LCSW1-01-2	0.0049338	0.005	mg/L	99.	85 - 115
Molybdenum	HP-LCSW1-1	2.22710	2.	mg/L	114.	80 - 120
Nickel	HP-LCSW1-1	1.8550	2.	mg/L	93.	80 - 120
Selenium	HP-LCSW1-1	0.11455	0.1000	mg/L	115.	80 - 120
Silver	HP-LCSW1-1	0.20950	0.2000	mg/L	105.	80 - 120
Thallium	HP-LCSW1-1	2.0900	2.	mg/L	105.	80 - 120
Vanadium	HP-LCSW1-1	1.9800	2.	mg/L	99.	80 - 120
Zinc	HP-LCSW1-1	2.1400	2.	mg/L	107.	80 - 120

Quality Control Officer

Anthony Bonanno



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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
METHOD 418.1

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*TPH

Constituents	Method Blank Readings	Units
Total Recoverable Petroleum Hydrocarbons	< 1.0	mg/L

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
METHOD 418.1

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Constituents	QC Sample ID	Sample Result	Sample Duplicate	MS Result	MS Spike	MS Level	MS Spike	MS Control	Precision	Accuracy
Total Recoverable Petroleum								R.P.D.	Control	Control
Hydrocarbons	781-1	< 1.0	< 1.0							
Total Recoverable Petroleum										
Hydrocarbons	OFW	< 1.0		4.66	4.76	5.00	5.00	mg/L	2.	20 93 .
										80 - 120

MS = Matrix Spike;

MSD = Matrix Spike Duplicate;

RPD = Relative Percent Difference

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*TPH

Quality Control Officer
Anthony Bonanno

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B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
METHOD 418.1

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*TPH

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Total Recoverable Petroleum Hydrocarbons	LCSW	4.81	5.00	mg/L	96.	90 - 110

Quality Control Officer

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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
METHOD 418.1

Harding Lawson and Associates
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MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*TPH

Constituents	Method Blank Readings	Units
Total Recoverable Petroleum Hydrocarbons	<20.	mg/kg

Quality Control Officer


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QUALITY CONTROL REPORT
(Precision & Accuracy)
METHOD 418.1

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MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Constituents	QC Sample ID	Sample	Sample	MS	MSD	Spike	Spike	Precision		Accuracy		
				Duplicate	Result	Result	Level	Control	MS	MSD	Control	
Total Recoverable Petroleum												
Hydrocarbons	843-2	< 20.	< 20.	87.50	87.50	100.00	100.00	< PQL	0.	20	88.	80 - 120

MS = Matrix Spike;

MSD = Matrix Spike Duplicate;

RPD = Relative Percent Difference

Quality Control Officer
Anthony Bonanno

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QUALITY CONTROL REPORT
(Laboratory Control Sample)
METHOD 418.1

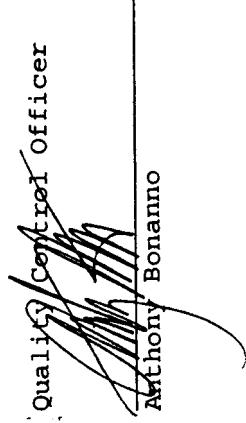
Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*TPH

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Total Recoverable Petroleum Hydrocarbons	LCSS	86.54	100.00	mg/kg	87.	80 - 120

Quality Control Officer
Anthony Bonanno





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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)

Method 8082

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8082

Samples Affected: 00-00785-1

Constituents	Method Blank Readings	Units
PCB-1016	< 0.2	$\mu\text{g}/\text{L}$
PCB-1221	< 0.2	$\mu\text{g}/\text{L}$
PCB-1232	< 0.2	$\mu\text{g}/\text{L}$
PCB-1242	< 0.2	$\mu\text{g}/\text{L}$
PCB-1248	< 0.2	$\mu\text{g}/\text{L}$
PCB-1254	< 0.2	$\mu\text{g}/\text{L}$
PCB-1260	< 0.2	$\mu\text{g}/\text{L}$
Total PCB's (Summation)	< 0.2	$\mu\text{g}/\text{L}$
Decachlorobiphenyl	96.	%

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8082

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Sample Affected: 00-00785-1

Constituents	QC Sample ID	Result	Sample	MS	MSD	MS	Spike	Spike	Precision	Control	MS	MSD	Control	Accuracy
			Result	MS	MSD	Level	Level	R.P.D.	Limits					
ECB-1260	OFW 1/21	< 0.2	2.607	2.385	2.500	2.500	2.500	9.	18	104.	95.	57	124	
Decachlorobiphenyl	MS/MSD									104.	99.	60	140	

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Quality Control Officer
Anthony J. Donanno

BOE-C6-0045969



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B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8082

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8082

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
PCB-1260	LCSW	2.485	2.500	µg/L	99.	57 - 124
Decachlorobiphenyl	LCSW				108.	60 - 140

Quality Control Officer
Anthony Bonanno



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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8082

Harding Lawson and Associates
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MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8082

Samples Affected: 00-00785-2, 00-00785-3

Constituents	Method Blank Readings	Units
PCB-1016	< 0.01	mg/kg
PCB-1221	< 0.01	mg/kg
PCB-1232	< 0.01	mg/kg
PCB-1242	< 0.01	mg/kg
PCB-1248	< 0.01	mg/kg
PCB-1254	< 0.01	mg/kg
PCB-1260	< 0.01	mg/kg
Total PCB's (Summation)	< 0.01	mg/kg
Decachlorobiphenyl	108.	%

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8082

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Constituent	QC Sample ID	Result	Sample	MS	MSD	Spike	Spike	MSD	Precision			Accuracy
									Result	Control	MS	
PCB-1260	BS 1/24	< 0.01	0.1005	0.0917	0.0836	0.0836	0.0836	0.0836	9.	120.	110.	59 - 130%
Decachlorobiphenyl	MS/MSD									113.	100.	60 - 140%

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8082

Quality Control Officer
Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8082

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8082

Samples Affected: 00-00785-2, 00-00785-3

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
PCB-1260	LCSS	0.0885	0.0836	mg/kg	106.	59 - 130
Decachlorobiphenyl	LCSS				94.	60 - 140

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
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MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8260

Samples Affected: 00-00785-1, 00-00785-1TB

Constituents	Method Blank Readings	Units
Benzene	< 0.5	µg/L
Bromobenzene	< 0.5	µg/L
Bromochloromethane	< 0.5	µg/L
Bromodichloromethane	< 0.5	µg/L
Bromoform	< 0.5	µg/L
Bromomethane	< 0.5	µg/L
n-Butylbenzene	< 0.5	µg/L
sec-Butylbenzene	< 0.5	µg/L
tert-Butylbenzene	< 0.5	µg/L
Carbon tetrachloride	< 0.5	µg/L
Chlorobenzene	< 0.5	µg/L
Chloroethane	< 0.5	µg/L
Chloroform	< 0.5	µg/L
Chloromethane	< 0.5	µg/L
2-Chlorotoluene	< 0.5	µg/L
4-Chlorotoluene	< 0.5	µg/L
Dibromochloromethane	< 0.5	µg/L
1,2-Dibromo-3-Chloropropane	< 1.	µg/L
1,2-Dibromoethane	< 0.5	µg/L
Dibromomethane	< 0.5	µg/L
1,2-Dichlorobenzene	< 0.5	µg/L
1,3-Dichlorobenzene	< 0.5	µg/L
1,4-Dichlorobenzene	< 0.5	µg/L
Dichlorodifluoromethane	< 0.5	µg/L
1,1-Dichloroethane	< 0.5	µg/L
1,2-Dichloroethane	< 0.5	µg/L
1,1-Dichloroethene	< 0.5	µg/L
cis-1,2-Dichloroethene	< 0.5	µg/L
trans-1,2-Dichloroethene	< 0.5	µg/L
1,2-Dichloropropane	< 0.5	µg/L

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QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8260

Samples Affected: 00-00785-1, 00-00785-1TB

Constituents	Method Blank Readings	Units
1,3-Dichloropropane	< 0.5	µg/L
2,2-Dichloropropane	< 0.5	µg/L
1,1-Dichloropropene	< 0.5	µg/L
cis-1,3-Dichloropropene	< 0.5	µg/L
trans-1,3-Dichloropropene	< 0.5	µg/L
Ethyl Benzene	< 0.5	µg/L
Hexachlorobutadiene	< 0.5	µg/L
Isopropylbenzene	< 0.5	µg/L
p-Isopropyltoluene	< 0.5	µg/L
Methylene Chloride	0.18	µg/L
Naphthalene	< 0.5	µg/L
n-Propylbenzene	< 0.5	µg/L
Styrene	< 0.5	µg/L
1,1,1,2-Tetrachloroethane	< 0.5	µg/L
1,1,2,2-Tetrachloroethane	< 0.5	µg/L
Tetrachloroethene	< 0.5	µg/L
Toluene	< 0.5	µg/L
1,2,3-Trichlorobenzene	< 0.5	µg/L
1,2,4-Trichlorobenzene	< 0.5	µg/L
1,1,1-Trichloroethane	< 0.5	µg/L
1,1,2-Trichloroethane	< 0.5	µg/L
Trichloroethene	< 0.5	µg/L
Trichlorofluoromethane	< 0.5	µg/L
1,2,3-Trichloropropane	< 0.5	µg/L
1,1,2-Trichloro-		
1,2,2-trifluoroethane	< 0.5	µg/L
1,2,4-Trimethylbenzene	< 0.5	µg/L
1,3,5-Trimethylbenzene	< 0.5	µg/L
Vinyl Chloride	< 0.5	µg/L
Total Xylenes	< 1.	µg/L



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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1, 00-00785-1TB

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8260

Constituents	Method Blank Readings	Units
m & p-Xylene	< 0.5	$\mu\text{g/L}$
o-Xylene	< 0.5	$\mu\text{g/L}$
Methyl-t-butylether	< 0.5	$\mu\text{g/L}$
1,2-Dichloroethane-d4	94.	%
Toluene-d8	101.	%
4-Bromofluorobenzene	96.	%

The trace detection for Methylene chloride is an estimated value between the MDL and PQL.

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8260

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-1, 00-00785-1TB

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8260

Constituents	IQC Sample ID	Result	Sample	MS	MSD	Spike	MSD	Spike	MS	Control	Precision			Accuracy	
											R.P.D.	Limits	% Rec		
Benzene	1772-2	< 0.5	13.15	14.19	16.00	16.00	16.00	16.00	16.00	16.00	9.	8.	20	82.	89.
Bromodichloromethane	1772-2	< 0.5	14.56	15.96	16.00	16.00	16.00	16.00	16.00	16.00	9.	9.	20	91.	100.
Chlorobenzene	1772-2	< 0.5	14.02	15.74	16.00	16.00	16.00	16.00	16.00	16.00	12.	12.	20	88.	98.
Chloroethane	1772-2	< 0.5	14.03	14.92	16.00	16.00	16.00	16.00	16.00	16.00	6.	6.	20	88.	93.
1,4-Dichlorobenzene	1772-2	< 0.5	14.28	15.88	16.00	16.00	16.00	16.00	16.00	16.00	11.	11.	20	89.	99.
1,1-Dichloroethane	1772-2	< 0.5	13.76	15.24	16.00	16.00	16.00	16.00	16.00	16.00	10.	10.	20	86.	95.
1,1-Dichloroethene	1772-2	< 0.5	14.34	15.49	16.00	16.00	16.00	16.00	16.00	16.00	8.	8.	20	90.	97.
Toluene	1772-2	< 0.5	12.91	15.15	16.00	16.00	16.00	16.00	16.00	16.00	16.	16.	20	81.	95.
Trichloroethene	1772-2	< 0.5	13.74	15.43	16.00	16.00	16.00	16.00	16.00	16.00	12.	12.	20	86.	96.
1,2-Dichloroethane-d4	MS/MSD	-	-	-	-	-	-	-	-	-	-	-	-	-	99.
Toluene-d8	MS/MSD	-	-	-	-	-	-	-	-	-	-	-	-	-	98.
4-BromoFluorobenzene	MS/MSD	-	-	-	-	-	-	-	-	-	-	-	-	-	99.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; RPD = Relative Percent Difference

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Quality Control Officer
Anthony Bonanno



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QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-11, 00-00785-11TB

Date of Report: 02/28/2000
Sample Matrix: Water
QC Batch ID: 200000785-1*8260

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Benzene	CCV 30	14.04	16.00	µg/L	88.	80 - 120
Bromodichloromethane	CCV 30	16.95	16.00	µg/L	106.	80 - 120
Chlorobenzene	CCV 30	15.72	16.00	µg/L	98.	80 - 120
Chloroethane	CCV 30	14.92	16.00	µg/L	93.	80 - 120
1,4-Dichlorobenzene	CCV 30	15.27	16.00	µg/L	95.	80 - 120
1,1-Dichloroethane	CCV 30	14.71	16.00	µg/L	92.	80 - 120
1,1-Dichloroethene	CCV 30	14.98	16.00	µg/L	94.	80 - 120
Toluene	CCV 30	15.43	16.00	µg/L	96.	80 - 120
Trichloroethene	CCV 30	16.15	16.00	µg/L	101.	80 - 120
1,2-Dichloroethane-d4	CCV 30				100.	76 - 114
Toluene-d8	CCV 30				102.	88 - 110
4-Bromofluorobenzene	CCV 30				98.	86 - 115

Quality Control Officer

Anthony Bonanno



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B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
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Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8260

Constituents	Method Blank Readings	Units
Benzene	< 0.005	mg/kg
Bromobenzene	< 0.005	mg/kg
Bromochloromethane	< 0.005	mg/kg
Bromodichloromethane	< 0.005	mg/kg
Bromoform	< 0.005	mg/kg
Bromomethane	< 0.005	mg/kg
n-Butylbenzene	< 0.005	mg/kg
sec-Butylbenzene	< 0.005	mg/kg
tert-Butylbenzene	< 0.005	mg/kg
Carbon tetrachloride	< 0.005	mg/kg
Chlorobenzene	< 0.005	mg/kg
Chloroethane	< 0.005	mg/kg
Chloroform	< 0.005	mg/kg
Chloromethane	< 0.005	mg/kg
2-Chlorotoluene	< 0.005	mg/kg
4-Chlorotoluene	< 0.005	mg/kg
Dibromochloromethane	< 0.005	mg/kg
1,2-Dibromo-3-Chloropropane	< 0.005	mg/kg
1,2-Dibromoethane	< 0.005	mg/kg
Dibromomethane	< 0.005	mg/kg
1,2-Dichlorobenzene	< 0.005	mg/kg
1,3-Dichlorobenzene	< 0.005	mg/kg
1,4-Dichlorobenzene	< 0.005	mg/kg
Dichlorodifluoromethane	< 0.005	mg/kg
1,1-Dichloroethane	< 0.005	mg/kg
1,2-Dichloroethane	< 0.005	mg/kg
1,1-Dichloroethene	< 0.005	mg/kg
cis-1,2-Dichloroethene	< 0.005	mg/kg
trans-1,2-Dichloroethene	< 0.005	mg/kg
1,2-Dichloropropane	< 0.005	mg/kg



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QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8260

Constituents	Method Blank Readings	Units
1,3-Dichloropropane	< 0.005	mg/kg
2,2-Dichloropropane	< 0.005	mg/kg
1,1-Dichloropropane	< 0.005	mg/kg
cis-1,3-Dichloropropane	< 0.005	mg/kg
trans-1,3-Dichloropropane	< 0.005	mg/kg
Ethyl Benzene	< 0.005	mg/kg
Hexachlorobutadiene	< 0.005	mg/kg
Isopropylbenzene	< 0.005	mg/kg
p-Isopropyltoluene	< 0.005	mg/kg
Methylene Chloride	< 0.01	mg/kg
Naphthalene	< 0.005	mg/kg
n-Propylbenzene	< 0.005	mg/kg
Styrene	< 0.005	mg/kg
1,1,1,2-Tetrachloroethane	< 0.005	mg/kg
1,1,2,2-Tetrachloroethane	< 0.005	mg/kg
Tetrachloroethene	< 0.005	mg/kg
Toluene	< 0.005	mg/kg
1,2,3-Trichlorobenzene	< 0.005	mg/kg
1,2,4-Trichlorobenzene	< 0.005	mg/kg
1,1,1-Trichloroethane	< 0.005	mg/kg
1,1,2-Trichloroethane	< 0.005	mg/kg
Trichloroethene	< 0.005	mg/kg
Trichlorofluoromethane	< 0.005	mg/kg
1,2,3-Trichloropropane	< 0.005	mg/kg
1,1,2-Trichloro-		
1,2,2-trifluoroethane	< 0.005	mg/kg
1,2,4-Trimethylbenzene	< 0.005	mg/kg
1,3,5-Trimethylbenzene	< 0.005	mg/kg
Vinyl Chloride	< 0.005	mg/kg
Total Xylenes	< 0.01	mg/kg



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Instrumental & Blank Parameters)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8260

Samples Affected: 00-00785-2, 00-00785-3

Constituents	Method Blank Readings	Units
m & p-Xylene	< 0.005	mg/kg
o-Xylene	< 0.005	mg/kg
Methyl-t-butylether	< 0.005	mg/kg
1,2-Dichloroethane-d4	114.	%
Toluene-d8	93.	%
4-Bromofluorobenzene	103.	%

Quality Control Officer

Anthony Bonanno



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Precision & Accuracy)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Constituents	QC Sample ID	Result	MS	MSD	MSD	MS	Spike	Precision	Accuracy
			Sample	MS Result	Level	Spike Level	R.P.D.	Control	
Benzene	1447-1	< 5.	81.	79.	80.	80.	μg/kg	2.	20/101. 99.
Bromodichloromethane	1447-1	< 5.	75.	74.	80.	80.	μg/kg	1.	20/104. 93.
Chlorobenzene	1447-1	< 5.	82.	76.	80.	80.	μg/kg	7.	20/102. 95.
Chloroethane	1447-1	< 5.	93.	93.	80.	80.	μg/kg	1.	20/117. 116.
1,1-Dichlorobenzene	1447-1	< 5.	84.	78.	80.	80.	μg/kg	8.	20/105. 98.
1,1-Dichloroethane	1447-1	< 5.	86.	85.	80.	80.	μg/kg	1.	20/107. 107.
1,1-Dichloroethene	1447-1	< 5.	90.	91.	80.	80.	μg/kg	1.	20/112. 114.
Toluene	1447-1	< 5.	77.	75.	80.	80.	μg/kg	2.	20/106. 96.
Trichloroethene	1447-1	< 5.	82.	81.	80.	80.	μg/kg	1.	20/102. 102.
1,2-Dichloroethane-d4	MS/MSD	-	-	-	-	-	-	-	96. 97. 76 - 114
Toluene-d8	MS/MSD	-	-	-	-	-	-	-	96. 97. 88 - 110
4-Bromofluorobenzene	MS/MSD	-	-	-	-	-	-	-	102. 103. 86 - 115

MS = Matrix Spike; MSD = Matrix Spike Duplicate;

RPD = Relative Percent Difference

Quality Control Officer
Anthony Bonanno

BOE-C6-0045982

All results listed in this report are for the exclusive use of the submitting party. BC Laboratories, Inc. assumes no responsibility for report alteration, separation, detachment or third party interpretation.
4100 Atlas Court * Bakersfield, CA 93308 * (661) 327-4911 * FAX (661) 327-1918 * www.bclabs.com



BC Laboratories, Inc

B C LABORATORIES
QUALITY CONTROL REPORT
(Laboratory Control Sample)
Method 8260

Harding Lawson and Associates
2171 Campus Dr., Suite 100
Irvine, CA 92612
MARK CLARDY

Samples Affected: 00-00785-2, 00-00785-3

Date of Report: 02/28/2000
Sample Matrix: soil
QC Batch ID: 200000785-2*8260

Constituents	QC Sample ID	Sample Result	Spike Level	Units	% Rec	Accuracy Control Limits
Benzene	CCV 24	17.	16.	µg/L	108.	80 - 120
Bromodichloromethane	CCV 24	16.	16.	µg/L	100.	80 - 120
Chlorobenzene	CCV 24	15.	16.	µg/L	97.	80 - 120
Chloroethane	CCV 24	20.	16.	µg/L	124.	80 - 120
1,4-Dichlorobenzene	CCV 24	17.	16.	µg/L	104.	80 - 120
1,1-Dichloroethane	CCV 24	18.	16.	µg/L	115.	80 - 120
1,1-Dichloroethene	CCV 24	19.	16.	µg/L	120.	80 - 120
Toluene	CCV 24	16.	16.	µg/L	97.	80 - 120
Trichloroethene	CCV 24	17.	16.	µg/L	106.	80 - 120
1,2-Dichloroethane-d4	CCV 24				100.	76 - 114
Toluene-d8	CCV 24				95.	88 - 110
4-Bromofluorobenzene	CCV 24				109.	86 - 115

The LCS recovery for Chloroethane is outside QC limits.

Quality Control Officer

Anthony Bonanno



AMERICAN ANALYTICS CHAIN-OF-CUSTODY RECORD

9765 ETON AVE., CHATSWORTH, CA 91311

(818) 998-5547 (818) 998-5548

1-800-533-TEST

1-800-533-8378

FAX (818) 998-7258

DATE: Jan 19, 2000

PAGE / OF /

AA Client	Hawkins Lured Recyclers		Project No.	260-1300 C	Sampler's Name	Key Laboratory
Project Manager	Mark Clancy		P.O. No.		Sampler's Signature	<i>Key Laboratory</i>
Project Name	Br C		Project No.	311.00.1	Project Manager's Signature	
Job Name and Address	Boeing 00-000785 HARRARATE, TACOMA, WA		ANALYSIS REQUIRED			
AA ID.#	Client ID.	Date	Time	Sample Type	Number of Containers	Test Requirements
-1	WWP-1	1/19/00	11:00	1/20/00 SOL	5	X X X X X
-2	SP-1				1	X X X X X
-3	SP-2				1	X X X X X
DISTRIBUTION						
MA 5100 Zach S.						
NUMBER CHECKED BY						
RECEIVED 1/19/00						
SAMPLE INTEGRITY TO BE FILLED IN BY RECEIVING LAB						
Sample intact	Yes	No	Received by:	Key Laboratory		Date: 1/19/00 Time: 12:53
Sample Properly Cooled	Yes	No	Received by:	<i>John Smith</i>		Date: 1/19/00 Time: 17:10
Sample Accepted	Yes	No	Received by:			Date: Time:
N Not Why:			Received by:			Date: Time:
AA Project No.			Received by:			Date: Time:

APPENDIX C

APPENDIX C
WELL ABANDONMENT PERMIT AND
NON-HAZARDOUS WASTE DATA FORMS

APPLICATION FOR WELL PERMIT

ENVIRONMENTAL HEALTH 2525 Corporate Place Monterey Park, Ca 91754
COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES

DATE JANUARY 4, 1999

DESCRIPTION	<input type="checkbox"/> NEW WELL CONSTRUCTION	<input type="checkbox"/> PRIVATE DOMESTIC	<input type="checkbox"/> CATHODIC						
	<input type="checkbox"/> RECONSTRUCTION OR RENOVATION	<input type="checkbox"/> PUBLIC DOMESTIC	<input type="checkbox"/> INDUSTRIAL						
	<input checked="" type="checkbox"/> DESTRUCTION	<input type="checkbox"/> IRRIGATION	<input type="checkbox"/> GRAVEL PACK						
		<input checked="" type="checkbox"/> OBSERVATION/MONITORING	<input type="checkbox"/> TEST						
METHOD OF SEALING OF CASING									
METHOD OF DESTRUCTION	<u>WELLS TO BE OVERDRILLED/REMOVED by 8" HSA backfilled w/ cement-mortar to GROUT GRAN T.D. to 100ft, from concrete to surface.</u>								
	ADDRESS (NUMBER, STREET, AND NEAREST INTERSECTION)		T.G. 763 J-3						
	19503 S. NIAGARADE / + 190 th STREET 90501		CITY TERRANCE						
DIAGRAM (SHOW PROPERTY LINES, STREET, ADDRESS, WELL SITE, SEWERS, AND PRIVATE SEWAGE DISPOSAL SYSTEMS ALONG WITH LABELS AND DIMENSIONS)									
LOCATION	<p>See ATTACHED</p>								
APPLICANT	<p>Five Monitoring Wells Destruction</p> <table border="1"> <tr> <td>NAME OF WELL DRILLER (PRINT) <u>THF DRILLING</u></td> <td>NAME OF WELL OWNER (PRINT) <u>BOEING REALTY CORPORATION</u></td> </tr> <tr> <td>TRADE NAME <u>9431 RESINA AVENUE</u></td> <td>MAILING ADDRESS <u>4060 LAKEVIEW BLVD. 6TH FLOOR</u></td> </tr> <tr> <td>BUSINESS ADDRESS <u>FONTANA, CA. 92335</u></td> <td>CITY <u>Laguna Beach, CA. 92680</u></td> </tr> </table> <p>I hereby agree to comply in every respect with all regulations of the County Preventive/Public Health Services and with all ordinances and laws of the County of Los Angeles and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the County Preventive/Public Health Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by such County Preventive/Public Health Services.</p> <p><i>[Signature]</i> ?</p> <p>PRINT NAME <u>Applicant's Signature</u></p> <p>start Tuesday 1/11/00</p>			NAME OF WELL DRILLER (PRINT) <u>THF DRILLING</u>	NAME OF WELL OWNER (PRINT) <u>BOEING REALTY CORPORATION</u>	TRADE NAME <u>9431 RESINA AVENUE</u>	MAILING ADDRESS <u>4060 LAKEVIEW BLVD. 6TH FLOOR</u>	BUSINESS ADDRESS <u>FONTANA, CA. 92335</u>	CITY <u>Laguna Beach, CA. 92680</u>
NAME OF WELL DRILLER (PRINT) <u>THF DRILLING</u>	NAME OF WELL OWNER (PRINT) <u>BOEING REALTY CORPORATION</u>								
TRADE NAME <u>9431 RESINA AVENUE</u>	MAILING ADDRESS <u>4060 LAKEVIEW BLVD. 6TH FLOOR</u>								
BUSINESS ADDRESS <u>FONTANA, CA. 92335</u>	CITY <u>Laguna Beach, CA. 92680</u>								
<p>DISPOSITION OF APPLICATION: (For Sanitarians Use Only)</p> <p><input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> DENIED</p> <p><input type="checkbox"/> APPROVED WITH CONDITIONS</p> <p>If denied or approved with conditions, report reason or condition: <u>Scheduled work on Thursday</u> <u>Jan. 13, 2000</u></p> <table border="1"> <tr> <td>TO:</td> <td>SANITARIAN</td> </tr> <tr> <td>DATE <u>JAN 11, 00</u></td> <td>SECTION CHIEF <u>Michael Lin</u></td> </tr> </table>				TO:	SANITARIAN	DATE <u>JAN 11, 00</u>	SECTION CHIEF <u>Michael Lin</u>		
TO:	SANITARIAN								
DATE <u>JAN 11, 00</u>	SECTION CHIEF <u>Michael Lin</u>								

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR

NAME Boeing Realty Corp. SITE _____

MAILING ADDRESS 4060 Lakewood Blvd. 6th Floor ADDRESS 19503 S. Normandie

CITY, STATE, ZIP Long Beach, CA 90808 CITY Los Angeles, CA 90501

PHONE: () _____

CONTAINERS: NO. 11 VOLUME _____

TYPE: TANK TRUCK DUMP TRUCK DRUMS ROLL OFF OTHER _____

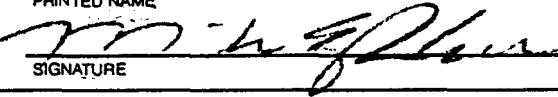
WASTE DESCRIPTION Water GENERATING PROCESS Well Monitoring

COMPONENTS OF WASTE	PPM	%	COMPONENTS OF WASTE	PPM	%
<u>Water</u>	_____	<u>>99</u>	5. _____	_____	_____
<u>TPH/BTXE</u>	_____	<u><.1</u>	6. _____	_____	_____
7. _____	_____	_____	7. _____	_____	_____
8. _____	_____	_____	8. _____	_____	_____

PROPERTIES: pH N SOLID LIQUID SLUDGE SLURRY OTHER _____

HANDLING INSTRUCTIONS: Wear appropriate protective clothing TPH-335

THE GENERATOR CERTIFIES THAT THE WASTE
AS DESCRIBED IS 100% NON-HAZARDOUS

PRINTED NAME MIKE PALMERSIGNATURE DATE 2-16-00

TRANSPORTER

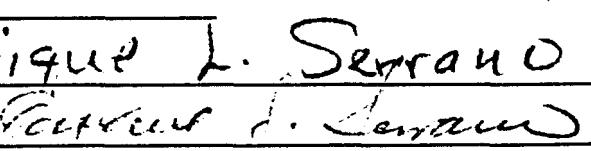
NAME Cameron Environmental, Inc.

ADDRESS 20741 Manhattan Place

CITY, STATE, ZIP Torrance, CA 90501

PHONE: () 310-212-0610

PRINTED NAME Enrique L. Serrano

SIGNATURE 

DATE

TSD FACILITY

NAME Crosby & Overton PROFILE NO. 20841

ADDRESS 1630 W. 17th Street LANDFILL OTHER _____

CITY, STATE, ZIP Long Beach, CA 90813

PHONE: () 562-432-5445

TONS/GALS REC'D. 100 SIGNATURE _____

DATE

NON-HAZARDOUS WASTE DATA FORM

TO BE COMPLETED BY GENERATOR	NAME <u>POEMI- REALTY INC.</u> ADDRESS <u>4060 LAKEWOOD CIR. #4</u> CITY, STATE, ZIP <u>LONG BEACH, CA 90808</u> PHONE NO. <u>310-427-3000</u>																				
			EPA ID NO. <u></u>																		
TRANSPORTER	CONTAINERS: No.	1	VOLUME	10CY																	
	WEIGHT																				
	TYPE:	<input type="checkbox"/> TANK TRUCK	<input type="checkbox"/> DUMP TRUCK	<input type="checkbox"/> DRUMS	<input type="checkbox"/> CARTONS	<input checked="" type="checkbox"/> OTHER	<u>KILLER EX#M102</u>														
	WASTE DESCRIPTION	<u>SOLID</u>			GENERATING PROCESS																
	COMPONENTS OF WASTE	PPM	%	COMPONENTS OF WASTE	PPM	%															
	1. <u>Asbestos</u>	<u>5</u>	<u>2%</u>	5. <u>PCITE</u>	<u>CORPORATE Facility</u>																
	2. <u>Soil</u>	<u>5</u>	<u>3%</u>	6. <u>1922 S MONROE</u>																	
	3. <u>SL</u>	<u>5</u>	<u>2%</u>	7. <u>LOS ANGELES, CA 90011</u>																	
	4. <u>Asbestos</u>	<u>2</u>	<u>1%</u>	8. <u></u>																	
	PROPERTIES:	PH <u>7</u>	<input checked="" type="checkbox"/> SOLID	<input type="checkbox"/> LIQUID	<input type="checkbox"/> SLUDGE	<input type="checkbox"/> SLURRY	<input type="checkbox"/> OTHER														
HANDLING INSTRUCTIONS:	<u>Waste must not be mixed with liquid waste</u>																				
THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.				TYPED OR PRINTED FULL NAME & SIGNATURE	DATE																
TSD FACILITY	NAME	<u>ENVIRONMENTAL WASTE INC.</u>			EPA ID NO. <u>CA0000000000</u>																
	ADDRESS	<u>1600 S. SKYLINE AVE</u>			SERVICE ORDER NO. <u>11100472</u>																
	CITY, STATE, ZIP	<u>MONTGOMERY, AL 36763</u>			PICK UP DATE	<u>3/16/00</u>															
	PHONE NO.	<u>317-625-6645</u>				<u>3/16/00</u>															
	TRUCK, UNIT, ID. NO.	<u>031</u>			TYPED OR PRINTED FULL NAME & SIGNATURE	DATE															
	NAME	<u>FCC & RECYCLING CORP. INC.</u>			EPA ID NO. <u>CA0000000001</u>																
ADDRESS	<u>100 W. MELROSE AVE</u>			DISPOSAL METHOD																	
CITY, STATE, ZIP	<u>HOLLYWOOD, CA 90036</u>			<input type="checkbox"/> LANDFILL	<input checked="" type="checkbox"/> OTHER	<u>RECYCLE</u>															
PHONE NO.	<u>310-434-1630</u>				<u>3/16/00</u>																
TYPED OR PRINTED FULL NAME & SIGNATURE				DATE																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>GEN</th> <th>OLD/NEW</th> <th>L</th> <th>A</th> <th>TONS</th> </tr> </thead> <tbody> <tr> <td>TRANS</td> <td></td> <td>S</td> <td>B</td> <td></td> </tr> <tr> <td>C/Q</td> <td>RT/CD</td> <td colspan="2">HWDF</td> <td>NONE</td> </tr> </tbody> </table>				GEN	OLD/NEW	L	A	TONS	TRANS		S	B		C/Q	RT/CD	HWDF		NONE	DISCREPANCY		
GEN	OLD/NEW	L	A	TONS																	
TRANS		S	B																		
C/Q	RT/CD	HWDF		NONE																	